

Fall 2019

Approaches to Teaching Music Reading to Piano Students With Autism Spectrum Disorder

Rachel Elizabeth Davis

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APPROACHES TO TEACHING MUSIC READING TO PIANO STUDENTS WITH
AUTISM SPECTRUM DISORDER

by

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Submitted in Partial Fulfillment of the Requirements

For the Degree of Doctor of Musical Arts in

Piano Pedagogy

School of Music

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2019

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DEDICATION

In loving memory of my grandfather, Lt. Col. Robert Frederick Davis II for his unwavering encouragement, support and interest in my academic and musical endeavors. The bold tenacity with which he pursued life and learning as a first-generation American citizen from an Irish immigrant family has fueled my unquenchable curiosity for learning, literature and travel, and my resolve to pursue life-long excellence.

ACKNOWLEDGEMENTS

I would like to extend my sincere gratitude to the following individuals who have invested their time, knowledge, expertise, support and encouragement throughout my musical training and this project.

Dr. Scott Price for his consistent guidance, patience, insight, wisdom and mentorship as my private piano professor, pedagogy professor and advisor. For inspiring me to be committed to excellence, for the dedication, research and time you have devoted to pioneering methods for teaching students with ASD and special needs, and for allowing me the privilege of pursuing this field of research;

Dr. Sara Ernst for providing the opportunity to teach piano at the Center for Piano Studies, and for the many learning and growth experiences;

Dr. Jennie Band, Dr. Beth Bauer, Dr. Melissa Martiros, Dr. Derek Polischuk, Dr. Scott Price and Ms. Connie Wible for their participation and valuable contributions to this study and area of research;

Don Russo for his mentorship, friendship, integrity and investment into my career as a musician, and giving me the opportunity to learn about the value of community and creativity in the music industry;

Former professors Dr. John Enyart, Dr. Randall McElwain, Dr. Paul Stewart, and Dr. Paul Peak and for their high expectations and faith in me, and for inspiring me to enjoy the challenge of solving difficult problems;

My fellow colleagues and dear friends who have journeyed through this adventure with me in providing laughter and study breaks to help maintain sanity through difficult situations and classes;

Students who have challenged me to pursue pedagogical and musical excellence and have reminded me of the necessity of this research study;

Parents of students who have championed my efforts, offered resources, and served as mentors, teachers, and friends;

To my family and friends who have been constant sources of support and encouragement when I lacked the confidence or energy to persevere. Especially my parents, Patrick and Pam, for their consistent inspiration and support throughout my academic and musical pursuits, and my sister, Kimberly, who has been loyally supportive of my efforts, provided comedic relief, and served as my personal barista and travel companion;

To the Creator, who gives the capacity to create music and share the gifts of music and learning with others. Soli Deo Gloria.

ABSTRACT

The purpose of the study was to collect information about teaching music reading to piano students with Autism Spectrum Disorder and to determine best teaching practices that may be implemented into existing curricula. The study involved interviewing six professionals who are nationally recognized for successfully teaching piano to students with ASD and analyzing the interviews to learn their procedures for teaching music reading to this population.

The interviews contain information concerning the backgrounds of the individuals being interviewed, the demographic backgrounds of students being taught, and the pedagogical process, instructional materials and technology used for teaching music reading in lessons. The summary of the study identifies the purpose of each section in the interview, the intended implication of each question, the number of responses received for each question, and a concluding summary of each question and section to identify the best teaching practices.

While there are a growing number of publications and online resources for music and special education and music pedagogy for students with Autism Spectrum Disorder, there are no comprehensive resources for piano instructors regarding teaching music reading to students with ASD.

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LIST OF ABBREVIATIONS

ADD	Attention-Deficit Disorder
ADHD	Attention-Deficit Hyperactivity Disorder
APA	American Psychiatric Association
ASD	Autism Spectrum Disorder
CDC.....	Centers for Disease Control and Prevention
DSM.....	Diagnostic and Statistical Manual
IEP	Individualized Education Plan
IFSP	Individualized Family Services Plan
IRB	Internal Review Board
MTNA	Music Teachers National Association
NCKP	National Conference on Keyboard Pedagogy
OCD	Obsessive Compulsive Disorder
PDD-NOS	Pervasive Developmental Disorder-Not Otherwise Specified

CHAPTER 1

INTRODUCTION

Definition of Autism Spectrum Disorder (ASD)

The Diagnostic and Statistical Manual (2013)¹ states that “Autism spectrum disorder is characterized by persistent deficits in social reciprocity, nonverbal communicative behaviors used for social interaction, and skills in developing, maintaining, and understanding relationships” (DSM-5, 31). Autism spectrum disorder (hereafter referred to as ASD) is defined by the Centers for Disease Control and Prevention (CDC) as a “developmental disability that can cause significant social, communication and behavioral challenges” (CDC, 2017).

The varying degrees of deficiencies in social interaction, learning and communication in children with ASD can create challenges for both diagnosis and treatment. Children or adults with ASD often experience difficulty with social, emotional and communicational skills and have different ways of learning, processing information, and reacting to situations. Some examples of these include not pointing to objects to show interest, avoiding eye contact or a

¹ The DSM-5, published by the American Psychiatric Association, provides criteria to assist in the diagnosis of ASD and other disorders. The CDC utilizes the DSM-5 diagnostic criteria for ASD.
<https://www.cdc.gov/ncbddd/autism/hcp-dsm.html>

desire to be alone, repeating actions obsessively, having trouble expressing their needs using typical words and motions, and appearing unaware when people talk to them (CDC, 2017). “In addition to social communication deficits, the diagnosis of autism spectrum disorder requires the presence of restricted, repetitive patterns of behavior, interest, or activities” (DSM-5, 31).

While the cause of ASD remains unknown, according to the CDC, “there may be many different factors that make a child more likely to have an ASD, including environmental, biologic and genetic factors” (2017). In addition, “ASD tends to occur more often in people who have certain genetic or chromosomal conditions, such as ‘fragile X syndrome’ or tuberous sclerosis” (CDC, 2017).² Despite ongoing research, there is currently no known cure for ASD or a genetic test to confirm diagnosis.

History of ASD

The term ‘autism’ is derived from the Greek word *autos*, which means ‘self.’ It was first used in 1911 by Eugen Bleuler, a Swiss psychiatrist, to “describe withdrawal into one’s inner world, a phenomenon he observed in individuals with schizophrenia” (Blatt, 2017). In 1964, Dr. Bernard Rimland, psychologist and father to a son with ASD, wrote *Infantile Autism: The Syndrome and Its Implications for a Neural Theory of Behavior*, which “advocated for the study of autism as a

² <https://www.cdc.gov/ncbddd/autism/facts.html>

biological disorder rather than a psychogenic one” (Cohmer, 2014).³ Rimland also founded both the Autism Society of America (ASA)⁴ and the Autism Research Institute,⁵ providing awareness, education, and resources for parents and professionals (Sicile-Kira, 2014, p. 11). This work has helped to redefine the perception of ASD in the psychiatric profession by establishing ASD as a biological disorder rather than a mental illness.

Diagnosis Criteria and Disorder Definitions

The Diagnostic and Statistical Manual (DSM) published by the American Psychiatric Association (APA) provides detailed descriptions, diagnoses and behavioral conditions by which mental health professionals make diagnoses. The DSM-4 (2000) listed five separate autism spectrum disorders:

- Autistic Disorder
- Asperger’s Syndrome
- Childhood Disintegrative Disorder
- Rett’s Disorder/Syndrome,
- Pervasive Developmental Disorder-Not Otherwise Specified (PDD-NOS)

“Asperger’s Disorder can be distinguished from Autistic Disorder by the lack of delay or deviance in early language development” (DSM-4, 74). “Autistic

³ <https://embryo.asu.edu/pages/infantile-autism-syndrome-and-its-implications-neural-theory-behavior-1964-bernard-rimland>

⁴ <http://autism-society.org>

⁵ <https://www.autism.com>

Disorder differs from Childhood Disintegrative Disorder, which has a distinctive pattern of severe developmental regression in multiple areas after at least 2 years of normal development. In Autistic Disorder, developmental abnormalities are usually noted within the first year of life” (DSM-4, 74). Rett’s Disorder has only been diagnosed in females and is accompanied by physical characteristics of head growth deceleration. Similarly, PDD-NOS is a diagnosis for children or adults who are on the autism spectrum but do not fully meet the diagnostic criteria for another ASD due to late age at onset or atypical symptoms.

Under the DSM-4, the diagnostic criteria provided 12 behavioral traits of ASD, and it required that individuals have at least six items from lists of characteristics for:

- 1) impaired social interaction,
- 2) impaired communication, and
- 3) restricted and repetitive behavior patterns (DSM-4, 75).

In the most recent DSM-5 (2013), the previously separate categories of ASD were revised into one category under the umbrella of ‘Autism.’ The new edition also includes Social (Pragmatic) Communication Disorder, a diagnosis for individuals who show impairment in social communication but do not display repetitive or restrictive behaviors (Autism Society of Wisconsin, 2017). The DSM-5 uses similar diagnostic criteria for determining ASD, but lists “severity levels for Autism Spectrum Disorder” in three levels:

Level 3- “requiring very substantial support,”

Level 2- “requiring substantial support,” and

Level 1- “requiring support” (DSM-5, 52).

Prevalence

In 2000, the CDC reported that 1 in 150 children were diagnosed with ASD. In 2008 the statistic increased to 1 in 88 children followed by another substantial increase in 2010 to 1 in 68 children (1.5% of the population). The CDC’s Autism and Developmental Disabilities Monitoring (ADDM) Network reported no change in 2012 with a consistent percentage of 1.5% (1 in 68) children diagnosed with ASD (Christiansen et. al., 2012). The CDC states that “ASD is about 4.5 times more common among boys [1 in 42] than among girls [1 in 89],” and that ASD is reported to occur in all racial, ethnic and socioeconomic groups. From the same study in 2012, the ADDM concluded that almost half of children identified with ASD (44%) had average to above average intellectual ability (Christiansen et. al., 2016).⁶

Funding

In 1975, President Gerald Ford signed the “Education for All Handicapped Children Act,” now known as the “Individuals with Disabilities Education Act” (IDEA)⁷ law which protects eligible students in need of special

⁶ <https://www.cdc.gov/ncbddd/autism/data.html>

⁷ <https://sites.ed.gov/idea/about-idea/>

education services. In 2004, Congress reauthorized the IDEA and recently amended it through Public Law 114-95, the “Every Student Succeeds Act” (ESSA)⁸ in December of 2015 (U.S. Department of Education, 2017). The U.S. Department of Education (2017) quotes the ESSA:

“Disability is a natural part of the human experience and in no way diminishes the rights of individuals to participate in or contribute to society. Improving educational results for children with disabilities is an essential element of our national policy of ensuring equality of opportunity, full participation, independent living, and economic self-sufficiency for individuals with disabilities.”

While this law provides accountability and minimal standards for special education, there is an unevenness in services offered, potentially making it difficult for children to receive all necessary therapies and assistance under this provision. Chantal Sicile-Kira (2014), mother to a son with ASD and advocate for ASD awareness, explains that while local school districts are “mandated to provide a ‘free and appropriate education,’ they are not receiving funds that were promised when the federal law was originally created” (Sicile-Kira, 2014, p. 185). This funding disparity creates a potential lack of resources for children and families, and further financial strain on parents of children with ASD to provide

⁸ <https://www.ed.gov/essa?src=rn>

necessary services such as ABA therapy (Applied Behavior Analysis),⁹ academic tutors, life skills coaches, and even music therapy.

Public Services

In the early stages of diagnosis and evaluation for a child with ASD, families can seek assistance from an early intervention program to help develop an Individualized Family Services Plan (IFSP).¹⁰ This plan serves as a roadmap for the child's family, caregivers, teachers, and therapists to work together to help the child achieve the best results in each area. The IFSP tracks the child's development in communication, social skills, and cognitive development. Many children with ASD require special educational provisions both within the classroom and in private tutoring to facilitate the unique sensory, communication, behavioral, processing and learning difficulties that are characteristic of the disorder. Special education services in public education systems vary by state and even by school district, but can range from special class services to one-on-one aides to assistive technology and therapies (Sicile-Kira, 2014, p. 183).

⁹ <http://autismacademyofsc.org/services/>

¹⁰ <https://www.education.com/reference/article/individualized-family-service-plans-IFSP/>

Services in South Carolina

In South Carolina, there are many organizations and foundations that assist families in finding services for children with ASD, as well as offer a variety of therapies and programs for children and information sessions for parents and guardians. The Autism Academy of South Carolina¹¹ is a resource for children of all ages, providing clinics and meetings for parents on ASD-specific topics in addition to camps and programs designed to help children with ASD improve their social skills. The Autism Academy also provides information on available ABA therapy and works cohesively through their Pediatric Neurodevelopmental Clinic to offer assessments and diagnostic testing for both ASD and ADHD.

The South Carolina Department of Disabilities and Special Needs (SCDDSN)¹² is the state's agency that "plans, develops, oversees and funds services for South Carolinians with severe, lifelong disabilities of intellectual disability, autism, traumatic brain injury or spinal cord injury and conditions related to each of these four disabilities" (SCDDSN, 2018). The department contracts in-home service to eligible individuals as well as 24-hour care for individuals with severe disabilities in Regional Centers which are located across the state.

The South Carolina Autism Society¹³ offers not only general information in ASD and diagnosis for parents, but also offers a parent-school partnership

¹¹ <http://autismacademyofsc.org/services/>

¹² <https://www.education.com/reference/article/individualized-family-service-plans-IFSP/>

¹³ <http://scautism.org>

program that is “designed to assist children with autism spectrum disorders to reach their maximum potential in the educational system” (South Carolina Autism Society, 2016). The Society facilitates partnerships, communication, and understanding between school personnel and the parents of students with autism. Assigned ‘parent mentors’ help families in deciphering special educational rights as well as attending IEP (Individualized Education Plan) meetings (upon request) and providing information and training to parents and schools.

Babcock Center¹⁴ in Columbia, SC is a unique non-profit organization that provides vocational training opportunities for adults with lifelong disabilities and offers support for “individuals to overcome barriers to full community participation such as the need to acquire employment and earn a reasonable level of income, the need for decent and affordable housing, and the need for safe, dependable transportation” (Babcock Center, 2018). While it is a non-profit organization, it does receive funding from the SCDDSN to provide resources to adults in both Richland and Lexington counties, as well as in other areas across South Carolina. “Babcock Center is the largest private provider of community services for people with severe lifelong disabilities in South Carolina” (Babcock Center, 2018).

¹⁴ <https://babcockcenter.org>

Music Programs

In addition to general educational programs for individuals with special needs, there are also a growing number of nationally recognized music programs associated with universities and music schools that are specifically designed for students with ASD and other disabilities.

Dr. Jennie Band is a Board-Certified Music Therapist and Licensed Professional Counselor, a Fellow in the Association for Music and Imagery (FAMI) and is recently retired from an active practice in Columbia, SC. Dr. Band's areas of specialty include autism, behavior, mood, anxiety, adjustment disorders and relationships. Many of her piano students with ASD have progressed to further private piano study and creative music activity at the Carolina LifeSong Initiative at the University of South Carolina.

Dr. Beth Bauer¹⁵ is the Guest Lecturer in Pedagogy and Internship Coordinator at Wheaton College Conservatory of Music and is also Piano Instructor at the Wheaton College Community School of the Arts for pre-college beginning to advanced students. She holds a Doctor of Music Education from the Indiana University Jacobs School of Music, a Master of Music from Northern Illinois University, and a Bachelor of Arts in Music from the Wheaton College Conservatory of Music. Dr. Bauer founded Beethoven's Buddies, "a music program for students with developmental delays at the Community School of the

¹⁵ <https://www.wheaton.edu/wheaton-college-conservatory-of-music/faculty/conservatory-guest-lecturers/beth-bauer-dme/>

Arts” (Wheaton College, 2018).¹⁶ Featured in an article by the *Chicago Tribune* in 2014, Beethoven’s Buddies reported 65 students and has since added “Clementi’s Colorful Chimes” to the program offerings.¹⁷ Her work with students with ASD and special needs has been featured on NBC Nightly News with Brian Williams, the *Chicago Tribune*, *The Daily Herald*, as well as at the Music Teachers National Association National Conference and National Conference on Keyboard Pedagogy. Dr. Bauer serves as co-chair of the National Conference of Keyboard Pedagogy’s Committee for Teaching Students with Special Needs and is also the co-author of the “Inclusive Piano Teaching” blog.

Dr. Melissa Martiros serves as Assistant Professor of Music at Anna Maria College in Paxton, MA. Dr. Martiros holds a Doctor of Musical Arts in Piano Performance and Pedagogy and a Master of Science in Special Education from the University of Wisconsin-Madison, a Master of Music in Piano Performance from Bowling Green State University, and a Bachelor of Arts in Piano Performance from Westfield State University. She is also currently pursuing a Doctor of Education degree in Higher Education Leadership and Policy at Vanderbilt University. Dr. Martiros is the founder and director of OpporTUNEity Music Connections, “a nationally recognized, award-winning engagement initiative for underserved youth and children with special needs” and ASD (Melissa Martiros).¹⁸ The program was started in 2014 when Dr.

¹⁶ <https://www.wheaton.edu/community/csa/about-csa/faculty/beethovens-buddies/>

¹⁷ http://articles.chicagotribune.com/2014-05-23/news/chi-beethovens-buddies-gives-music-lessons-to-students-with-special-needs-20140523_1_music-lessons-piano-teacher-special-needs

¹⁸ <https://www.melissamartiros.com/about-hayden/>

Martiros was a professor at Martin Methodist College in Pulaski, TN. OpporTUNEity was designed to:

- 1) provide undergraduate music students with an ethical and meaningful experience,
- 2) begin “reinserting music back into a region deprived of art” to strengthen the undergraduate program and educate future recruits, and
- 3) encourage Pulaski to move past “racial tension and segregation in the community by advocating for inclusion in the arts” (Martiros, 3).

Dr. Martiros is an active clinician and has presented workshops at the International Society of Music Education World Conference, the National Conference on Keyboard Pedagogy, the Canadian Federation of Music Educators Biennial Convention, the Music Teachers National Association National Conference, the Australasian Pedagogy Conference, and many others. In addition, Dr. Martiros is the co-author of the Inclusive Piano Teaching blog sponsored by the Frances Clark Center for Keyboard Pedagogy, is the co-chair for the Committee for Teaching Students with Special Needs for the National Conference on Keyboard Pedagogy and has been published in the *American Music Teacher* and the *MTNA E-journal* (Melissa Martiros).

Dr. Scott Price¹⁹ serves as Professor of Piano and Piano Pedagogy and Coordinator of Piano Pedagogy at the University of South Carolina. Dr. Price holds a Doctor of Musical Arts in Piano from the University of Oklahoma, a Master of Music in Piano from The Cleveland Institute of Music, and a Bachelor

¹⁹ http://www.sc.edu/study/colleges_schools/music/faculty-staff/Price.php

of Arts in Music from Bowling Green State University (OH). He is the founder and creator of the “Carolina LifeSong Initiative (CLI),” a program that “provides piano instruction and music experiences for people with autism, ADD/ADHD, developmental delays, down syndrome, hearing and visual impairments and PDD-NOS” (USC School of Music, 2018). “The Carolina LifeSong Initiative created ‘Piano Teaching and Special Needs,’ a special topics course to promote teacher training for advanced graduate students pursuing degrees in piano pedagogy” at the University of South Carolina (USC School of Music, 2018). Students at the CLI perform a public recital each semester, and the program regularly provides special workshops on teaching piano to students with special needs and ASD.²⁰

Dr. Price’s work with students with special needs has been featured on news networks including WISTV and WLTX in South Carolina, as well as in *The Piano Magazine: Clavier Companion*. In addition, one of Dr. Price’s students with autism was featured on Dateline NBC and CNN. He was the recipient of the 2008 Frances Clark Keyboard Pedagogy Award, was named a Foundation Fellow by the Music Teachers National Association in 2009, and was the recipient for the 2012 Southeastern Conference Faculty Achievement Award for the University of South Carolina. Dr. Price has presented at clinics and conferences such as the Music Teachers National Association National Conference, the National Conference on Keyboard Pedagogy, the Korean Association of Piano Pedagogy in Seoul, South Korea and the Royal Conservatory of Music Keyboard

²⁰ http://www.sc.edu/study/colleges_schools/music/study/performance_areas/keyboard/pianopedagogy/carolina_lifesong_initiative.php

Professional Development Summit in Toronto and Vancouver, Canada. He has also hosted webinars on teaching students with ASD for both the Frances Clark Center for Keyboard Pedagogy and the Royal Conservatory of Music. Dr. Price serves as President of the Board of Trustees of the Frances Clark Center for Keyboard Pedagogy, is the creator and editor-in-chief for the “Piano Pedagogy Forum,” an online piano pedagogy journal, is co-author of the Inclusive Piano Teaching Blog, and is a member of the Committee for Teaching Students with Special Needs for the National Conference on Keyboard Pedagogy.

Dr. Derek Polischuk²¹ serves as Associate Professor of Piano and Director of Piano Pedagogy at Michigan State University College of Music. Dr. Polischuk²² holds a Doctor of Musical Arts in Piano, a Master of Music, and a Bachelor of Music from the University of Southern California Thornton School of Music. He is the founder and director of the “Celebrating the Spectrum” Piano Festival, which is “designed to give qualified advanced pre-College students on the Autism Spectrum a preview of a life in music” (Michigan State University, 2018). Students who attend the festival are given opportunities to participate in master classes with College of Music piano faculty professors Deborah Moriarty and Dr. Polischuk, and also partake in yoga/body awareness clinics and lectures by visiting professors. During the week, students perform two performances of both solo and four-hand repertoire in public concerts. Celebrating the Spectrum provides College of Music piano majors and graduate students with the

²¹ <http://www.music.msu.edu/faculty/profile/derek>

²² http://www.cms.msu.edu/el/staff/derek_polischuk.php

opportunity to serve as Program Assistants for the festival and assist with rehearsals and activities.²³

Dr. Polischuk has been the recipient of Michigan State University's Curricular Service-Learning and Civic Engagement Award in addition to the Teacher-Scholar Award. He has presented at music conferences across the United States and Canada including the Music Teachers National Association National Conference, the National Group Piano and Pedagogy Conference, and the Multidisciplinary Research in Music Pedagogy Conference, and has published articles in *The Piano Magazine: Clavier Companion* and in the MTNA E-journal.

Connie Wible serves as the owner of Musical Mind Piano Studio and Store and is the Founder of MI Music Technology Camp located on Mercer Island, Washington (Mercer Island Music).²⁴ Ms. Wible has over 35 years of experience as a piano instructor, and is also an accompanist, performer and composer. After three of Ms. Wible's children were diagnosed with learning challenges, she opened her piano studio to include students with ADD/behavioral issues as well as ASD and Asperger's Syndrome. Ms. Wible has developed and adapted keyboard instruction for "children with Autism Spectrum and Asperger's Syndrome along with ADD, dyslexia and behavior problems" and frequently speaks on topics of "Adaptive Piano for Special Needs, Single Parents, and Music Wellness" (Mercer Island Music). In addition, she serves as a mentor for music teachers starting their own studios and teaches accompanying skills to pianists.

²³ <http://www.music.msu.edu/spectrum>

²⁴ <http://mercerislandmusic.com/portfolios/connie/>

While there are other music programs being offered, these individuals have been selected for their national impact on students with disabilities and for the number of students being served.

PURPOSE OF THE STUDY

The purpose of the study was to collect information about teaching music reading to students with ASD and to determine best practices that may be implemented into existing curricula. The study involved interviewing six professionals who are nationally recognized for successfully teaching piano to students with ASD to learn their procedures for teaching music reading to this population.

The criteria for selection of the interviewees included national and international visibility, strength of the program as exhibited by success of students, publications, and workshops and presentations at local, state, national and international levels. All six of the interviewees have earned doctoral degrees or degrees in Music Education, Piano Pedagogy and Performance, and Piano. In addition, two of the selected individuals have earned master's degrees in Special Education and one individual is a board-certified Music Therapist.

The interviews collected information concerning the backgrounds of the individuals being interviewed, the demographic backgrounds of students being taught, and the pedagogical process, instructional materials and technology used for teaching music reading in lessons. The researcher analyzed the interviews to determine and summarize best practices in teaching and make them available to

other professionals in the piano teaching community. The author hopes to make these resources available to the wider public.

NEED FOR THE STUDY

While there are a growing number of publications and online resources for music and special education and music pedagogy for students with autism spectrum disorder, there are no comprehensive resources for piano instructors regarding teaching music reading to students with ASD. The “Inclusive Piano Teaching Blog,”²⁵ an online publication from the Frances Clark Center for Keyboard Pedagogy, is currently the only available resource devoted to teaching piano to students with ASD and other disabilities. There are also social media sources that offer informal advice for teaching students with special needs; however, there is a lack of detailed research and authority regarding the validity of the information. One resource is “Occupational Octaves,” an informal curriculum to assist in teaching piano students with ASD, but it is unclear if this system has undergone official review and pedagogical analysis to determine validity. Other publications such as *The Piano Magazine: Clavier Companion* and *The American Music Teacher* contain articles devoted to teaching students with disabilities, however, there is a need for a study which documents the best practices used for teaching piano to students with ASD.

²⁵ <http://keyboardpedagogy.org/blogs/inclusive-piano-teaching-blog>

LIMITATIONS OF THE STUDY

The study was limited to interviews with six piano pedagogues and music therapists who specialize in teaching students with ASD:

- Dr. Jennie Band
- Dr. Beth Bauer
- Dr. Melissa Martiros
- Dr. Derek Polischuk
- Dr. Scott Price
- Ms. Connie Wible

The interviews consisted of questions regarding how these professionals teach music reading to students with ASD. While reference was made to other music skills, the study was limited to music reading. General information concerning the interviewees' educational backgrounds and special programs for students with ASD was also obtained.

LITERATURE REVIEW

The rise in ASD awareness in recent decades has resulted in increased availability of resources on general information concerning ASD, the characteristics of ASD, and descriptions of educational services and treatments. Temple Grandin, PhD, is a prominent speaker, author, and spokesperson for ASD. Diagnosed with ASD at a young age, Grandin is currently a Professor of Animal Sciences at the University of Colorado, is renowned as a world-leader on

decoding animal behavior, and is recognized for her work in creating humane facilities for animals.²⁶ She has written many books on her life as an individual with ASD, including *The Way I See It* (4th edition) and *Thinking in Pictures- My Life with Autism*. Grandin is also the author of *The Autistic Brain: Helping Different Kinds of Minds Succeed* which explains the history of the ASD diagnoses and discusses sensory problems, visual thinking, math and pattern thinking. She recommends her books for fully verbal children, teenagers and adults as well as for parents and educators of students with ASD. Her works provide an intimate view of autism and its many challenges as well as advantages from a practical and fascinating perspective.

The Diagnostic and Statistical Manual (DSM), published by the American Psychiatric Association (APA) and The Centers for Disease Control and Prevention (CDC),²⁷ contain definitions, diagnosis information, and current data for ASD. These resources are utilized by professions to assist in making diagnoses as well as researching symptoms of the disorder.

Chantal Sicile-Kira, mother of a son with ASD and author of *Autism Spectrum Disorder: The Complete Guide to Understanding Autism*, offers a practical and complete overview of ASD for families, educators and professionals. The book covers the characteristics of ASD, educational challenges, treatment/therapy options, and strategies for successfully working with individuals with ASD- from infancy to adulthood.

²⁶ <http://www.templegrandin.com/templehome.html>

²⁷ <https://www.cdc.gov>

In their article “Understanding Autism: Insights from Mind and Brain,” researchers Elizabeth Hill and Uta Frith explore the symptoms of ASD as well as recent developments in the field of ASD research and reports on three main neuro-cognitive theories of ASD: “theory-of-mind deficit, weak central coherence and executive dysfunction” (Hill, 2003).

Educational research continues to evolve and generate valuable resources for both general and specific challenges for teaching students with ASD. In *Educating Special Children*, Michael Farrell details the classifications and provisions for children and students with learning impairments. The chapters cover:

- cognitive impairment (profound, moderate, mild and severe),
- hearing impairment
- visual impairment
- deaf/blindness
- motor disorders/orthopaedic impairments
- health impairments
- traumatic brain injury
- disruptive behavior disorders
- anxiety/depression disorders
- ADHD
- communication disorders (speech/grammar comprehension)
- autism
- developmental disorders

- reading disorder
- written expression disorder
- mathematics disorder

Each chapter includes a definition of the disorder followed by prevalence/implications of the disorder, provision for students, thinking points for contemplation, and key texts related to the disorder. The chapter on autism discusses the disorder in greater detail in comparison to other chapters, providing not only the content mentioned above, but also including information on sensory integration, teaching language skills and general pedagogy for instruction of students with autism/Asperger's syndrome. Farrell also emphasizes communication methods for students with the disorders, and explains manual signing systems, social stories, the picture exchange system, and available therapies.

Published by the Division on Autism and Developmental Disabilities (DADD),²⁸ *A Guide to Teaching Students with Autism Spectrum Disorders* contains seven chapters written by individuals who are professionals in the field of ASD education. The chapters include:

- 1) What is Autism?
- 2) What is Literacy?
- 3) Promoting Literacy Development in Inclusive Classrooms
- 4) Assessing Literacy Learning
- 5) Focus on Reading

²⁸ <http://daddcec.org>

- 6) Focus on Writing and Representation
- 7) Literacy Learning for Students with Significant Disabilities (Yes, Those Students, Too)

The chapters include subsections with pedagogy for teaching students with ASD. Chapter four includes a section on “Systematic Instruction” by Dr. Kara Hume which outlines the importance of planning, organizing and preparing activities and interactions for students with ASD, as well as pacing the instruction to prepare the students for successful interactions. The book concludes with a comprehensive bibliography of resources as well as websites and recommended reading on literacy, instruction and disabilities.

Educating Students on the Autistic Spectrum: A Practical Guide” by Martin Hanbury provides a synopsis of the definition, diagnosis and prevalence of ASD, but concentrates on understanding the effect of ASD in the classroom, suggestions for cultivating positive relationships towards students with ASD as well as their families and other professionals, and understanding the impact of ASD on the learning process. Hanbury offers steps for addressing behavior issues as well as effective strategies for assessment and evaluation of students with ASD. In addition, the book offers models to assist in developing curriculum for students with ASD, emphasizing the importance of structure and complexity in learning, as well as the necessity for a new pedagogical approach.

In their research article “Talent in Autism: hyper-systemizing, hyper-attention to detail and sensory hypersensitivity,” Simon Baron-Cohen, Emma Ashwin and others present the argument that these characteristics of hyper-systemizing predisposes individuals with ASD to show talent and that these

actions are part of the cognitive process of people with ASD. The argument presents the notion that the excellent attention to detail and hypersensitivity, characteristics of ASD, are actually positive characteristics and are interconnected to talent that begins on a sensory level.

The continual research in education for students with ASD has also benefited music education, with specific resources for music educators and pedagogues. In *Music in Special Education*, Mary Adamek and Alice-Ann Darrow provide a comprehensive approach to the history, statistics and definitions of programs for students with disabilities in public education settings. The authors also provide detailed overviews of characteristics, music education and music therapy approaches for students with specific disabilities and behaviors including autism spectrum disorder.

A resource published in 2017, *Music Education for Children with Autism Spectrum Disorder* by Sheila Scott provides teachers not only with foundational information about ASD, but also with lesson plans and teaching strategies for involving students with autism in music-based activities. The book includes access to a website that contains songs, activities and music resources referenced within the book.

The introductory chapter in *Teaching Music to Students with Autism* by Alice Hammil and Ryan Hourigan presents an overview of ASD and practical approaches for music teachers to utilize in building relationships with other educators, parents, therapists and those involved in teaching students with ASD. The remainder of the book is dedicated to outlining systematic instruction for

music teachers in learning to communicate with students with ASD, strategies for behavioral issues in the classroom, understanding social skills of students, and music-specific challenges of sensory activities and classrooms for students with ASD. Hammil and Hourigan also provide detailed information regarding advocacy for music education for students with ASD, listing steps to promote and create a unique, successful music program and suggestions for gaining support. The conclusion of the book lists unique music classroom scenarios involving students with ASD in classroom, ensemble and performance 'snapshots' with conclusions and added resources for music educators.

Edited by Deborah VanderLinde Blair and Kimberly McCord, *Exceptional Music Pedagogy for Children with Exceptionalities* contains 14 chapters by internationally renowned music educators of students with special needs. The chapters include topics such as "How the Orff Approach Can Support Inclusive Music" (Shirley Salmon), "Music Activities for Children with Disabilities: An Example from Taiwan" (Liza Lee), "Specified Learning Disabilities and Music Education" (Kimberly McCord) and "Including Students with Disabilities in Instrumental Ensembles" (Christine M. Lapka). Behavioral issues in music classrooms, accommodations for students with hearing loss, similarity of literacy and music, and music education for students with ASD are also discussed.

In her article "How to Adapt for Special Students," Linda D. White emphasizes the importance of planning for not only the musical considerations of students with special needs, but also the auditory/hearing sensitivities, necessity for consistent classroom procedures, and careful thought to planning the physical arrangement of the music classroom. The article also gives practical

advice for maintaining behavior management in the music classroom for students with special needs.

In addition to general and music education resources for teaching students with ASD, there are a growing number of recent resources specific to piano instruction for students with special needs. Dr. Beth Bauer's dissertation entitled "What is an appropriate approach to piano instruction for students with Down syndrome?" evaluates approaches and procedures to teaching piano to students with Down syndrome.

The Inclusive Piano Teaching Blog²⁹, an online publication of the *The Piano Magazine: Clavier Companion*, is authored by Dr. Beth Bauer, Dr. Melissa Martiros, and Dr. Scott Price. Blog posts are dedicated to providing "expert advice on teaching learners of all abilities" as well as "ideas for working with learning challenges, at-risk, and underserved youth" (Clavier Companion Articles).³⁰ Recent post titles include:

- "Person-first language" (Dr. Beth Bauer)
- "Labels" (Dr. Melissa Martiros)
- "Studio environment: Some keys to success" (Dr. Scott Price)
- "Recital preparation and performance" (Dr. Beth Bauer)
- "Teaching students with visual impairments: Empathy and facilitation" (Dr. Scott Price)

²⁹ <https://claviercompanion.com/clavier-companion-articles/inclusive-piano-teaching>

³⁰ <https://claviercompanion.com/clavier-companion-articles>

- “Vocabulary Effectiveness for Students with Special Needs”
(Dr. Scott Price)

The blog also features a two-part post on teaching reading to students with special needs by Dr. Martiros and Dr. Price.

The Piano Magazine: Clavier Companion, a publication of The Frances Clark Center for Keyboard Pedagogy, provides articles on pedagogical and musical topics by professional pianists and educators. The July/August 2010 issue, “Teaching Students with Special Needs,” included an article by Dr. Scott Price entitled “All in a day’s routine: Piano teaching and autism,” as well as an article by Dr. Beth Bauer entitled “Ten characteristics for teaching students with special needs.” The July/August 2014 issue, “Breaking Down Barriers: Piano study for ALL students,” also emphasized inclusive piano instruction with an article by Dr. Scott Price (“More than a lesson: Piano study and students with special needs.”)

Other musical publications such as the *American Music Teacher* (a publication of MTNA) and *Music Educator’s Journal* also include articles on teaching students with special needs and inclusion in piano lessons. In addition to publications, the topic of teaching piano to students with special needs has been emphasized at national and international pedagogy and music conferences. In 2012, Dr. Scott Price was invited to present lectures on teaching piano to students with ASD at The Korean Association of Piano Pedagogy in Seoul, South Korea and at the Royal Conservatory of Music Keyboard Professional Development Summit in Toronto and Vancouver, Canada. In Canada, Dr. Price also gave masterclasses to advanced piano students with ASD.

In addition, the National Conference on Keyboard Pedagogy in July, 2017 featured a pre-conference seminar on Teaching Students with Special Needs. The 2019 NCKP included a special seminar on teaching students with special needs. In addition, both The Royal Conservatory of Music and The Frances Clark Center for Keyboard Pedagogy will be featuring webinars on teaching students with ASD by Dr. Scott Price. The Music Teachers National Association conference has offered pre-conference tracks on teaching music to students with special needs since 2013, as well as conference sessions and panel discussions on the same topic.

While there are many professionals having success with these students, the growing number of students coupled with the newness of the field result in a lack of information available specific to piano teaching.

DESIGN AND PROCEDURES

The document comprises four chapters, a bibliography and appendices. Chapter one consists of the introduction, purpose and need for the study, limitations of the study, survey of literature, and design and procedures. Chapter two provides the methodology of the study. Chapter three includes transcripts of interviews with leading piano pedagogues and music therapists regarding procedures for teaching music reading to students with autism. Chapter four serves as a summary and conclusion for the study and provides recommendations for future research.

CHAPTER 2

METHODOLOGY

The following steps were taken to conduct the study:

- Permission was obtained from the Internal Review Board of the University of South Carolina to commence the study.
- Email invitations to participate in the study were sent to the six nationally recognized music educators.
- Interview questions were written and sent by email to the six individuals who agreed to participate in the study.
- The interviews were conducted by phone, email and FaceTime at the convenience of the individuals.
- Audio recordings were made of phone and FaceTime interviews, which were then used to create a typed transcript of the interviews.
- All identifiable information was removed from the transcripts.
- Transcripts of interviews were sent to the individuals for approval.
- Final edits to the transcript were made and sent back to the individuals for final approval.
- The individuals signed an Interview Acceptance Form giving approval for interviews to be included in the document.

The following are the interview questions that were used in the study.

1. Background

- a. What prompted you to begin teaching students with special needs?
- b. What process did you go through to begin teaching students with special needs?
- c. Are there any resources that you found to be helpful when you started teaching?
- d. What methods did you use for obtaining students?
- e. What interview or application process do you use for evaluating potential new students?
- f. Could you describe the programs you currently offer for students with special needs and disabilities?
- g. Do you offer private or group lessons?
- h. How do you structure your lessons?
- i. What types of routines or schedules do you use with students in lessons?
- j. How do you require your students to practice?
- k. Do you assign specific practice methods or times?

2. Student Population

- a. What ages of students do you teach?
- b. How many students with special needs do you currently teach?
- c. What special needs do they have?
- d. Do you solely teach students with ASD or do you teach students with other special needs?
- e. How many students specifically with ASD do you teach?
- f. What other comorbid symptoms do your students with ASD present?

- g. What are the gender percentages of students with ASD in your studio?
 - h. How many of your students do you consider to be high, middle and low on the spectrum?
3. Curriculum
- a. For the purpose of this study, I am defining music reading as: the ability to identify notes, find them on a keyboard, actualize and play them with rhythmic accuracy. Do you use a print method series for teaching music reading?
 - b. If so, what method do you use?
 - c. Do you create your own resources for use in lessons?
 - d. If so, please describe the materials you have created.
 - e. Do you use any other supplementary materials in lessons?
 - f. Do you utilize technology in lessons?
 - g. If so, what types of technology?
4. Pedagogical Process
- a. How do you introduce a new piece to a student?
 - b. How do you determine the best approach for teaching music reading to each student?
 - c. How do you help students navigate music reading in elementary and intermediate literature?
 - d. What teaching techniques have you found successful in helping students navigate advanced literature?
5. Music Reading
- a. How do you introduce and correlate keyboard letter names to notes on a staff?
 - b. Do you use mnemonic devices when teaching staff reading?
 - c. Are there any games or activities that you have found successful in reinforcing note names on the staff?

- d. What approach do you use when teaching steps and skips on the staff?
 - e. How do you introduce flats, sharps and accidentals?
 - f. How do you incorporate counting with music reading?
 - g. Do you use symbolic notations for counting?
 - h. Are there any games or activities that you have found successful in reinforcing counting?
 - i. What teaching techniques have you found successful in teaching music reading to students with ASD?
6. Accommodations and Vocabulary
- a. What accommodations do you make for students with physical disabilities such as vision/hearing impairment, immobility, muscular coordination, etc.?
 - b. How do you communicate with non-verbal students or students with significant intellectual disabilities?
 - c. What are the most important aspects of communication with students with ASD/special needs?
 - d. What vocabulary do you use for counting to avoid number confusion with other numerical uses in music? (Measure numbers, finger numbers)
 - e. What are your procedures for addressing behavioral problems in lessons?

Do you have any other suggestions to offer piano instructors who are teaching music reading to students with ASD

CHAPTER 3
INTERVIEW TRANSCRIPTS
RESPONDENT 1

The following are the complete interview responses by “Respondent 1.”

1. Background

a. What prompted you to begin teaching students with special needs?

I came to the...[university] in 1996, and in 1999 I got a phone call from the local Yamaha piano dealer. He had met a family with a child with special needs who were looking for piano lessons and were also buying a piano. Due to the child’s special needs, they were not sure if she could have lessons, would benefit from lessons, or if anyone would be willing to teach her. The dealer contacted me, and I said that I would love to meet them, so they called and made an appointment.

So, it was really just a phone call and connections in the community. That was my first student. The parents hear ‘no’ so often from different situations that when they hear someone is open to the possibility of music instruction, it’s just community networking after that for the most part. What really prompted me was the fact that that’s why the university is here: to help people and to create possibilities. This university is a research school, and this was an untapped area of study, and it is our duty to fill in those gaps. Higher education, universities and colleges are funded in part by tax dollars, and the

people who give those tax dollars deserve a return on that.

Ultimately, it was a bit of chance, community connections, willingness to give it a try, and a sense of responsibility and the mission of the particular university where I teach.

b. What process did you go through to begin teaching students with special needs?

A lot of observation. I read everything I could find, and at the time, there wasn't much available on piano teaching and students with special needs. I did a lot of reading on Autism because my first student was low-functioning on the Autism spectrum and had other special needs as well. I talked a lot to the parents, heavily stressed how important it was for them to be present in the lessons, and that it was a partnership, and they should feel comfortable educating me.

I also took the attitude that the students and parents knew everything and I knew nothing, and that I just had to go back to school to let them teach me. I took notes on every single lesson, did a lot of videotaping, then a great deal of qualitative reflection afterwards, and modifying and creating teaching techniques. It wasn't just a vague thing, and there was a lot of qualitative research methodology behind what I was doing as well.

c. Are there any resources that you found to be helpful when you started teaching?

There really wasn't anything available for music study and Autism at the time, so a lot of what I found very useful were textbooks that were starting to be written on Autism in general. I read most of what Temple Grandin had written. My other resources were parents; I talked to parents a lot and listened to what they had to say about how their children navigated their every-day lives. How they learned in school, how they learned social skills at home, and how they learned to interact with the outside world. What worked, what didn't work, and then we tried to incorporate that into the piano lessons.

Basically, I read everything I could find and talked to the parents a lot. And of course, reflection upon my notes, videotapes of lessons, and the research process. I also was fortunate to have a very good music therapist here in town who was supportive and a wonderful resource.

d. What methods did you use for obtaining students?

I really had no method for obtaining students. I had a pre-college class, and at that time, there was just one student with special needs (the first student I had). This particular student was later diagnosed as a prodigious savant and had a presence in the community through playing at special events. When people would ask where she studied, her parents would inform them of the university. Basically, it was just networking in the community, and that is still how people come to me. I have much more of a national presence now, but at the time, there wasn't any publication of opportunities; it was just word-of-mouth and community networking. Now, people are drawn

to this program through the media attention, publications, and everything that has grown up around the teaching and the students' successes.

e. What interview or application process do you use for evaluating potential new students?

That's always an interesting question. All of the students in my pre-college piano program now have special needs. There is not a traditional application or interview process because usually, parents give me the necessary information over the phone. It happens that way at our first initial contact because they're so used to doing that with the IEP's and in talking to all the other professionals who serve their children. I gain as much information as I can over the phone and also follow up by email. Much of what the parents share with me, I don't even have to ask for, because they're so used to giving the information. Sometimes they share the IEP information with me, as well.

My application process consists of getting in-depth information about the child and what other things they're doing, what their special needs are, if they have an affinity for the piano, and what music they have studied in the past, or what activities they have been enrolled. The evaluation process consists of them coming for an appointment and me just observing the child. Letting them acclimatize to the environment, get used to me, my voice and my presence, talking with the parents and helping the parents let the student feel at ease.

During the evaluation process I present a very simple schedule or routine, ask permission to see if the child is willing to do some things at the keyboard,

and then we begin a detailed and specific improvisation curriculum to see how well they react to that kind of structure. After I have accumulated all of that information, we proceed with the lessons. I always make a deal with the parents where I tell them that I'm willing to try and I need their help. If at some point they feel that it's not working, tell me, and I'll find a better or more appropriate situation for them. If at some point I feel that it's not working, I will tell them, and will do my best to find something better or more appropriate for their child. It is a partnership. Usually that's all the parents want- they just want a chance. Sometimes they're not interested in the outcome of the lessons as much as they are just interested in having the chance and the personal interaction with their child, along with compassion and kindness.

f. Could you describe the programs you currently offer for students with special needs and disabilities?

My program is an umbrella program that provides music experiences for students with Autism and other special needs. I offer private lessons, and those lessons include (depending upon what the child is able to do): standard repertoire, instruction on counting, music reading, theory instruction, composition at the beginning level (as appropriate for the child), and all of my students also go through an improvisation curriculum. The improvisation curriculum is not separate from the lessons, but rather it is the way that we introduce concepts to them. All of them are required to improvise for the audience at recitals, and that is unrehearsed.

We do provide sensory-friendly performance opportunities at the end of each semester, and next year I'm looking into creating an adjudicated performance opportunity for them, so they can feel what that situation is like and they can get feedback from other people besides myself.

g. Do you offer private or group lessons?

Private lessons. I do not offer group lessons at this time.

h. How do you structure your lessons?

The majority of my students take a 30-minute lesson each week. Some take 45-minute lessons and others take 60-minute lessons; it just depends on the child. The lessons are highly structured and follow a specific routine or learning schedule.

I teach them the appropriate behaviors to wait quietly outside and not to come in until their lesson time. We have structured behaviors on how to prepare for the lesson, how to get books ready, and how to wait for instruction. Then we do the lesson routine, which is exactly what was written down in their assignment book, and they know what things will happen at certain points in the lesson. Then there are micro-routines so they know exactly how each section of the piece is going to be taught every lesson: consistency in vocabulary, terminology, and teaching practices. For each child, based upon their attention span, there are specific lengths of time that I allow for each activity, which differ from student to student.

At the end, they have specific behaviors which they have learned, and we go through those as well. There are overall macro-structures and micro-

structures to the lesson, and those routines are part of their behavioral, communication, and musical education. I try to keep social skill education and interaction to a very high level throughout the lesson, so they are constantly communicating with me.

Everything is highly structured, almost to the point that you might wonder how any learning is accomplished, but that is how it needs to be done for students with Autism.

i. What types of routines or schedules do you use with students in lessons?

Most of my routines are verbal or written. My students do not need to use pictures schedules or diagrams. If they need them, I'm happy to do that, but most of my students do not. They're usually mid to low functioning on the Autism Spectrum so either the verbal routine or schedule that they remember from the previous lesson is what I use.

j. How do you require your students to practice?

I use a specific five-step plan that is designed as a routine or schedule to learn the piece, and it is also the same practice routine that they need to use.

The five-step plan is:

- 1) Look at the notes and know the names of the keys they need to press*
- 2) Know the fingerings*
- 3) Know how to count*
- 4) Then we take a small bit of the music and start to put that together with the physical motions they need to make the piece happen. (A lot of the students*

have fine motor-skill deficits, so we need to work very hard on breaking down physical movements, so they can produce them correctly.)

5) Then we do the 'five-time rule,' which means they have to be able to play that little section five times perfectly before we can move on.

That is exactly the way they practice at home.

k. Do you assign specific practice methods or times?

We keep the time a little bit flexible, but the practice schedule is generally every day and I allow the parents to build that into the child's schedule at home. They will practice at various times during the day, but it will usually be the same time, depending on their schedule. They also have to practice their lesson material for the allotted practice time, and after that they can play anything they want. Sometimes they will practice for 30-minutes and then continue to play for much longer than that, but I want it to be creative music-making for the extra time they spend at the piano. For many of the kids, their practice time is built-in as a therapy and as a way for them to desensitize and destress from the day, so it serves many different purposes.

2. Student Population

a. What ages of students do you teach?

The youngest student with a special need that I've ever taught was either four or five years old at the time, and I've taught all the way through adult students who have lived in assisted living facilities in town and attend vocational programs, so probably age four through 50's.

b. How many students with special needs do you currently teach?

10.

c. What special needs do they have?

All but one of my students have Autism Spectrum Disorder, and most of them are on the low to mid-functioning end of the Spectrum. I also have students with ADD/ADHD, developmental delays of all kinds, fine motor-skill delays, speech delays, Apraxia of speech, and Down Syndrome. In the past, I've had students with hearing and visual impairments.

My philosophy here is that my first job is to help the student find a way forward, and to make a chance for them. I do care about the special need because as that informs my pedagogy, but I want the person to be first and to have a chance and the compassion and kindness they need to experience creative music-making.

d. Do you solely teach students with ASD or do you teach students with other special needs?

I will teach students with any special need they may present with, but the majority of my students do have ASD.

e. How many students specifically with ASD do you teach?

Nine of the 10.

f. What other comorbid symptoms do your students with ASD present?

In most cases, there are developmental delays of all kinds, motor-skill, speech and cognitive delays. One of my students has Apraxia of speech, some are non-verbal, others are verbal to varying extents. I have had students with ASD in the past who had vision impairments, ADD/ADHD, OCD, as well as various physical disabilities. Issues that accompany Autism can sometimes be diet-related and environment related, so I have had students with digestive issues that affected their lessons.

g. What are the gender percentages of students with ASD in your studio?

Currently, nine have ASD and those nine are male. The vast majority of the students who come to me with ASD are male.

h. How many of your students do you consider to be high, middle and low on the spectrum?

One is on the high end of the Spectrum and under old diagnostic criteria, he would be classified as having Asperger's Syndrome. Two are in the middle of the spectrum, and the rest are low.

3. Curriculum

- a. For the purpose of this study, I am defining music reading as: the ability to identify notes, find them on a keyboard, actualize and play them with rhythmic accuracy. Do you use a print method series for**

teaching music reading?

Yes, I do.

b. If so, what method do you use?

I've used various methods, but my go-to right now is the Premier Piano Course by Alfred. I've also used Piano Adventures by Faber and sometimes we use whatever the student has been working on, if they are a transfer student.

c. Do you create your own resources for use in lessons?

Yes.

d. If so, please describe the materials you have created.

The biggest resource I have created is the improvisation curriculum that we use, and that goes from beginning to advanced levels. It is used along the tenets of Music Learning Theory, where the improvisation is used to immerse students in a sound culture and help them start identifying patterns through sound, then learn to play them and then go to the visual representation. By the time we get to the visual representation it's just a label to something they already understand aurally and physically.

e. Do you use any other supplementary materials in lessons?

Yes. Usually in the method series we use the method book and performance book. Depending upon the student, we'll use the theory book, and then I use a lot of supplementary repertoire from early to intermediate levels,

and piano concertos by composers such as Martha Mier, Catherine Rollin and others, and for some students (as appropriate), they do their own composing, which also helps with music reading.

f. Do you utilize technology in lessons?

I do use some technology.

g. If so, what types of technology?

It usually involves the use of iPhone or iPad videos that the students can take home and use during their practicing. Sometimes we will give them links to online flashcards as well, but it really depends on whether the student can see a connection between the flashcard exercise and what they're doing in their lesson. Some of them don't make the transference or the association between the technology and the lesson content or the learning process.

At times I'll use a Yamaha Clavinova so they can play with harpsichord sounds or something like that, and they usually have a lot of fun.

4. Pedagogical Process

a. How do you introduce a new piece to a student?

It all goes back to setting up the routines for learning. Depending on the student, we may say, in the lesson routine, "Next week, can we do a new piece?" just so they know what's coming. In their lesson routine for the day, I'll tell them, "And then we're going to do the new piece."

When we begin, I ask them if they're ready, and sometimes early in the process they get a choice in what piece they will do. I'll play two or three options, but

often I have to teach them what it means to make a choice, because sometimes they'll just choose the first or last one they heard. I had one student who did "eeny-meeny-miny-moe" just to choose whatever piece he was going to do.

After it's built into the routine, we go back to the 'five-step plan' where the first thing we do is identify from the dots what keys they need to play. Notice I didn't say "what notes," but rather "what keys" they need, and what fingers they need to play them, how long and in what order they need to play them, and then we do the small bit and practice it five times in a row. I always ask two or three times, "Are you ready to go on?" or "Do you know how to do it?" or "Do you know what to do?" just to make sure that they will communicate with me and say "yes" or "no."

b. How do you determine the best approach for teaching music reading to each student?

I think that comes from the initial interview and evaluation. As I get to know the student better, I know how much time that they will need to be properly exposed to a new concept such as reading, and how much time they will need to process a portion of the learning routine. Once I know that, then I can begin an appropriate pacing of the whole process.

I like to use an acronym called "APT." I should give my student time to do the **auditory** processing, give **pacing** for them to put all the skills together and execute the task, and then **time** to work. If I do those three things, they are more 'apt' to learn, and it's kind of a silly acronym, but one that works very well.

This process may happen over the long-term. Maybe they're doing a lot of

rote learning at the beginning, but we also start the lesson with a routine which is: right hand, left hand, finger numbers, then key names. Once they really know the key names, finger numbers and right/left hand, then we'll start equating those key names with dots on the page. Then the counting becomes a manner of not so much a counting approach, numbers or math, which they may not understand or be able to apply, but it becomes more directive words like "play, play, play, hold" or "touch, touch, touch, hold," whatever works for the student.

Sometimes that process unfolds over years, sometimes it unfolds over months, for some students it unfolds very quickly, it's just student-centered and proceeds at the pace with which they can work. I don't push them faster than they can really go; I let them take the lead.

c. How do you help students navigate music reading in elementary and intermediate literature?

Our learning process is always the 'five-step plan,' but when the music becomes more complex and we have two lines going on, we'll take right hand first then left hand. Or, the student will tell me which hand they want to do first, and then it becomes a question of coordination between the hands. If they're playing hands together and separate I'll start using a process of "together, right hand, left hand" or finger numbers, and then I'm always assisting the student's tracking with my fingers pointing in the score, covering up what they've already done and moving my fingers saying "notes, fingering" or something else to help direct their attention to the task before any mistakes that might happen. This helps them track with their eyes and

direct attention to what they might need to look at.

At that point, it's me helping them facilitate their attention and their focus in many ways. I also do modeling. For some students, I do not give them an initial model of the piece because their ears and memory are so good, they just learn it from what I played. For other students, I'll play a portion from the middle or the end, or for some I might give an entire model because they can't understand artistic vocabulary, but they will copy the movements and the sounds that I'm making with their own hands.

d. What teaching techniques have you found successful in helping students navigate advanced literature?

All of the same that I just mentioned in the past question, but also pacing and very frank conversations on how much they think they can do. I never force them to do more than they feel like they can do, and every single one of my students has always been very honest about saying, "I can't do that much- I want to stop here," and I always honor that request.

And, of course, careful choices of literature. If a student has fine motor-skill deficits, a Heller or Czerny Etude probably isn't the best choice, so I choose literature very carefully so that they'll have success. That doesn't mean we don't give them challenges, but I give them appropriate challenges.

When choosing literature, I often don't have a choice, because it's going to be the next page in the book no matter what because they want to do everything in order. If I'm going to do something out of order, I'll have to explain what we're going to do and teach them what that means and why we are doing it. Then, ask if we can do another piece instead of the next one in the

book. I do that to avoid behavioral issues like outbursts, shutdowns, and meltdowns.

5. Music Reading

a. How do you introduce and correlate keyboard letter names to notes on a staff?

That's where we have to differentiate between music reading and note reading. Note reading being the intellectual exercise where you start to explore the music theory on the staff, and that can all be done away from the keyboard. That doesn't mean that my students don't learn theory, but they often learn it not so much by identifying the notes C, E and G on the staff, but by knowing that it's 'white key, white key, white key' on the keyboard that makes the C Major chord.

When we're working with learning the repertoire, I'm doing more music reading, which means where they look at the dot on the staff, and they know which key correlates with that dot. I'll often point and say, "What key do you need?" and then they will point to the key that they need or tell me what it is. Some of them are non-verbal, so they will point instead.

Then we go to the 'five-step plan' to do the finger numbers, counting, small bit, and the five-time rule. I still have them do scales, five-finger patterns, chord progressions, all of those things, but they understand them in terms of patterns and what keys equate to that sound pattern. Some of them aren't able to approach a theory exercise away from the piano, or don't understand how that applies to what they're doing at the keyboard. They still have all the patterns and know what things are called, so it's just very

pragmatic- see that, play this.

b. Do you use mnemonic devices when teaching staff reading?

Not usually, and that's because it creates an extra layer of learning for my students that is often problematic. I just want them to learn the names of the keys and how those keys correlate to the dots in the music. That's not to say we don't do things that are student-specific. For example, one of my students experienced synesthesia, so the way he learned his scales was that his mother helped make laminated strips of paper where the letter names of the keys of the scale were in the colors that he saw. That was how he learned his scales.

Generally, for kids with Autism, their brains are so detail-oriented and so step-by-step, that throwing a mass of finger numbers up there is very easy for them because they just go from one to the next and they learn them that way. It's a bit different from a traditional student who may learn better in groupings or larger patterns of notes.

c. Are there any games or activities that you have found successful in reinforcing note names on the staff?

I really don't use any games. Everything that I do needs to be motivational and directly tied to the learning of the skill. In one case, I had a student who had difficulty differentiating between right hand and left hand. He was fine away from the keyboard, but when looking at the music he had trouble. So, we used a green dot to indicate right hand and a red dot for left hand, and then maintained consistency with those colors.

With other students, sometimes I'll draw a pair of eyeballs at specific

places in the score, and that indicates special attention is needed during practice. If they do that part well, then they get to put a smiley-face under it next week. In other cases, I'll have students write in things in the music. Some students need to have every letter name written into the music, which is fine, but they have to tell me what it is first so that I know they're reading, and the same goes for finger numbers. Sometimes we'll put all the finger numbers in with the caveat being they have to tell me the correct one first.

d. What approach do you use when teaching steps and skips on the staff?

I think it's two different things. One is that we've already done so much work with improvisation that they already have a very large repertoire of patterns in their minds and in their ears, and they have such a talent for patterns that they begin to recognize by themselves when note patterns equate with sound patterns that they've heard. In cases where they have trouble with it, we go very step-by-step, and that is counting lines and spaces until they've learned it.

It's difficult to do steps and skips, because when you get into a skip, it can be a 3rd, 4th, 5th, or 6th, and then you have major and minor intervals, so I've found it's better to avoid that because it gets too confusing and adds too much of an extra layer to the process.

e. How do you introduce flats, sharps and accidentals?

When we're learning key names, they always learn that the black keys have two different names. I'll say, "What is this key called?" and we'll either

do sharps and then flats, or some students will say “F-sharp/G-flat” and I’ve never had a student get confused when it has two names, they just do the one that’s appropriate. Sometimes their vision doesn’t track to the actual sharp before the note, so I have to pay special attention to make sure they are tracking and seeing it. Sometimes we write in the note name.

When it comes to key signatures, I always make sure it’s part of their lesson and practice routine that they have to observe the key signature, remember it and know what that means. Or, I’ll just write them all in for them if they’re not able to remember it. A lot of them have such a grand memory for key centers and tonal centers that even though they may not understand the key signature, they know that this piece is in F Major and they’ll make it sound correct in F Major by playing the correct b-flats.

f. How do you incorporate counting with music reading?

I try to avoid layering of numeric or unit counting, which often makes it difficult for students because they have too many tasks to attend to all at once, so they don’t understand how they all relate to each other. I do a lot of directive words in the playing, which is saying something like “C, c, c, hold, d, d, d, hold, f and hold-it” or something like that. Or I’ll say “Play, play, play hold,” words that tell their body exactly what to do to make the counting happen. They’re still counting, but they’re thinking of it in terms of what their bodies need to do to make the sound, and there isn’t all that layering of the abstract concepts. If they can do some form of counting approach, then sure, we do that, but I often start with the directive words first to make sure they’re feeling and hearing the proportions of the notes. Then we may go to a

counting system later.

g. Do you use symbolic notations for counting?

It depends on the student. Some students may write all the counts in, for others I may write "Play, play, play, hold" in the music. As far as triangles or circles or some kind of graphic writing, I don't use those symbols.

h. Are there any games or activities that you have found successful in reinforcing counting?

Yes. I do a lot of "my turn, your turn" where I play a short example, which of course, is part of the routine. We set up a learning behavior routine where the student knows that I'm going to play three or four notes and they have to play the exact same notes in the same rhythm. In a lot of the improvisation exercises, I do things like play duets along with them so they are immersed in a meter, and I start singing or counting along with them. Or I will play an improvisation and I want them to do a similar one, and then we'll start putting labels on that like "Play in triple" or "Play in duple." We don't have any games in the traditional sense, but everything is very pragmatic and everything we're doing is putting the student into a sound-culture and putting labels on things they already know aurally.

i. What teaching techniques have you found successful in teaching music reading to students with ASD?

I think everything that I've said so far is pretty much what I do. If there are any special teaching techniques, I think it is in the development and

management of the teaching persona, the use of voice, the use of vocabulary, and the extreme carefulness in setting up the learning routines. Then developing a relationship with the student so that they clearly understand what is important, what is humorous, and they're giving that communication back. A lot of times they aren't able to verbalize their thoughts or feelings, but there are other ways to do that than with vocabulary. When we are tenaciously observant, those can be used as cues for different modes of communication or different tasks in the learning process.

Something as simple as "Oh," "Good," or "Look out," said in a very positive way helps direct the focus of the learning. With any other vocabulary you build with the student, the challenge is just being consistent, and making sure they understand the meanings of the words being used.

6. Accommodations and Vocabulary

a. What accommodations do you make for students with physical disabilities such as vision/hearing impairment, immobility, muscular coordination, etc.?

For vision impairments, things like ensuring that they have handicapped parking, taking the students on a tour to make sure they know how to get to my office, giving them a tour of my office, and making sure that all of my teaching is descriptive so that we're eliminating color-words and verbs that indicate vision. And making sure that they're comfortable teaching me what they need, and that it's a partnership. I always learn some braille music notation if I need to and make sure they have access to appropriate materials for learning.

For hearing impairments, simple things like don't play and talk to the student at the same time. When you do speak to the student, make eye contact and speak clearly so that they can read your lips. Give them time and make it a partnership as well so they can tell you, and feel comfortable telling you, when they aren't understanding something, when they need you to slow down, or when they feel like what you're teaching them and the way you're teaching them is not working. That means giving up a lot of your ego as a teacher in service to the student.

For students with immobility issues and muscular coordination deficits, appropriate literature choices and making sure that a lot of the flowery, artistic language that we use with our neurotypical students or students without special needs is changed to usage of very literal, concise, and pragmatic language for our students who need to learn exactly how to move their bodies in a certain way. Instead of saying, "Let this phrase grow like a flower," you need to say: "Touch this key gently, touch this key more strongly, touch this key even more strongly, and touch this key the strongest." Then they know exactly how to play a beautiful crescendo with their body and they don't have to go through this big abstract process of figuring out what it means for a flower to grow, because for them, growing flowers really have nothing to do with what they're playing at the piano.

b. How do you communicate with non-verbal students or students with significant intellectual disabilities?

Just because a student is nonverbal doesn't mean that they have fewer thoughts or emotions, or less ability to understand you, they may just not

talk. We have to start, in an extreme case, making sure that our students are focused and giving joint attention, and that they are processing the words that we are saying, and we are teaching them the meaning of the words that we're saying so that they can understand what we want from them in the lesson. Also, for nonverbal students, facial expressions, affirmative gestures like a thumb's-up or a high-five, stickers, stars, using all those things in the music are communication. Everything we do, as well as what we say, is communication – same for the students.

For a student with intellectual disabilities, they're just like other people and they communicate the same way, but vocabulary may be different and often tone of voice is so important. When we speak to each other, the tone of our voice communicates much more often than our choices in vocabulary. By using positive, open facial expressions, positive, warm tone quality to our voice and smiles, that opens the person up and they give better joint attention and then you can begin to communicate with the appropriate words and gestures they need. We need to make sure that they're understanding everything and that it's okay to say, "I don't get it." I would rather do something 50 times in the lesson than do it 49 times and the student not understand it.

c. What are the most important aspects of communication with students with ASD/special needs?

1. Never assume that they understand the communication tools that we are using.

2. *Always use concise, literal and specific language, and detailed instruction.*
3. *Remember that they are people, too, and build that relationship.*

They recognize kindness and compassion just like anyone else does, and it is so important because they may not experience it from people outside their families that often. That really is the thing: remember that they're people, use kindness and compassion, and help them know that you're in it together as partners and that the student is the teacher and that you will get a masterclass in pedagogy every time they come to a lesson.

d. What vocabulary do you use for counting to avoid number confusion with other numerical uses in music? (Measure numbers, finger numbers)

For the most part, numbers for my lower functioning students with Autism refer to finger numbers. The counting is usually directive words, which is why I split those into the two different categories so they don't get confused or frustrated, or the learning situation collapses because they can't navigate the different numeric systems.

e. What are your procedures for addressing behavioral problems in lessons?

It really depends on the child, the family, and the particular situation. I find that I don't have to deal with a lot of behavioral issues because I'm very detailed and specific in the large, macro-routines and the micro-routines that the students have for getting ready for the lesson and the lesson content when I'm with them. If that is highly structured, I find that we don't have problems.

If the problems do occur, then often, the parents can help me know what the various triggers are for the specific students so I can avoid those things in my teaching. Those can be gestures, sounds, and words. I also observe my students very carefully so I can see what their cues are as far as when they're starting to experience severe anxiety, or whether an outburst or shutdown is coming, and then I back off. I'll ask them, "Do you need time to relax?" or "Do you need time to stand up and jump around?" or "Do you need time to get out some energy and run up and down the hall?" If they need to do that, fine.

If it's an avoidance behavior, I have to judge whether it's a problem or if it really is just an avoidance behavior. A lot of times, those are bathroom breaks. You have to judge, and the parents can help you judge if they really need the break or if they're just not wanting to do something.

Sometimes the parents will call or send an email saying, "We can't do performance today; something happened at school and he doesn't want to do performance book." So, I just adjust the lesson. If we do have an outburst or a behavior that I can't manage, it is probably manifesting in school and at home as well. Depending on the type of behavior, I will either address it with the parents or sometimes students simply need to learn that this is something we don't do in a piano lesson. So, I'll just smile with a positive tone of voice and say, "Well, I don't think we can talk about that in piano lesson" or "We don't do that in piano lesson. Can you remember that from now on?" They're not in trouble, they just don't know, and they have to learn.

If it's an extreme behavior, I will often end the lesson politely and with a smile, and tell the parents, "I need to end the lesson here. You are welcome

back anytime, but not until this behavior has been addressed.” I always follow it up with an email and a phone call to let them know that I do want them back, it’s just that we need to address this problem first. Usually those problems are manifesting in other areas and the parents are already telling me that they’re working on this, because they’re usually not surprised at all. I think what they’re grateful for is the fact that you’re sticking with the student and that you are willing to stay with them for the long-term. Sometimes you’ll never know what caused the behavior issues. It could be diet-related, weather-related, over-stimulus, you just don’t know. Some kids might not have slept for three days, so you just have to roll with it.

Do you have any other suggestions to offer piano instructors who are teaching music reading to students with ASD?

We have a lot more resources online and in publication right now, and individuals can search those out in conferences and piano journals. We’re getting a lot more information that’s based on research and evidence-based instruction, and evidence-based practices. The biggest thing is just to give people a chance, and don’t be afraid to try things. These kids are very resilient, they are wonderful teachers if we listen to them, and aren’t afraid to fail. It’s not the child’s failure; they’ll be fine. Just don’t be afraid to fail, admit it, move on, learn, and get better. If each of us took one student, stuck with it for a long period of time, and journaled and reflected on our teaching, we would be serving an incredible number of students.

With the numbers being what they are (I think it’s 1 in 59 for Autism diagnoses right now), we’re going to be in a crisis within the next 20 years in education, long-term care, vocational education and quality-of-life experiences for these students. The more we

can do now, the better off they will be in the future. They'll help us learn how to better teach our neuro-typical students, truly. I know that my teaching with my college students and my traditional, neurotypical students is much, much better because of my students with Autism Spectrum Disorder. I think they're giving us a unique gift with their presence in the piano studio.

RESPONDENT 2

The following are the complete interview responses by “Respondent 2.”

1. Background

a. What prompted you to begin teaching students with special needs?

In 2003, I began a DMA program in Piano Performance at the...[university]. Around the same time, I began private teaching at a community music school and began working with a student with ADHD and another with Autism. I was ill-equipped and when I began looking for resources to assist, I discovered there really weren't any. I also discovered a passion for this work, so I decided this would be the path where I could make the most impact.

b. What process did you go through to begin teaching students with special needs?

...[The university] requires all doctoral students to declare a minor. As I struggled to make accommodations for these students, I decided to approach the Special Education Chair about the possibility of me doing a minor in Special Education. We designed one together and, soon after, I decided it would be better for me to pursue a second master's degree in special education, one that would give me the credentials to begin creating resources and training programs for music teachers in the future. ...[The university] has a top-rated Special Education program. It's tough to get into. She agreed to advocate for my admittance if I agreed to spend a year working full-time as an ABA therapist for children on the spectrum in order to gain enough

experience to be successful in the program. I took a year off from my studies, worked full time for the ... Autism Project, and when I returned in 2005, I switched to the DMA program in Piano Performance and Pedagogy and pursued a custom designed MS in Special Education. I worked with amazing professors at the time who allowed me to blend projects. So, in special education courses I was permitted to tailor final projects to include pedagogy, and in my pedagogy courses I was permitted to tailor final projects to include special education. I also begin building a studio. At one point, I had close to 50 private students, and over 75% with special needs. My DMA portfolio was a mix of traditional recitals, lecture recitals, pedagogy lectures on special needs topics, and a culminating dissertation designed to capture piano teachers' perceptions of inclusion. I used my work at ...[the university] as a launchpad for future work in the field.

c. Are there any resources that you found to be helpful when you started teaching?

Not really. The lack of resources is what prompted me to begin teaching. My coursework in special education really guided my work as I learned to translate the material to piano pedagogy, as a field and as a practice.

d. What methods did you use for obtaining students?

Word of mouth, really. I started to do this work and I did it well. I built a reputation. The special education network of teachers and parents is tight-knit and people talk. Access to after school activities is limited and parents are always on the lookout for opportunities for these children. Since 2005, I've

lived in ... [three different states in the U.S.] I've managed to quickly build private studios in each of these locations, usually through one social media post and from there, word of mouth and referrals.

e. What interview or application process do you use for evaluating potential new students?

I have a policy that I am willing to work with any student who is willing to learn. By nature, I see potential in everyone and everything and have learned that sometimes, it just takes some kids longer to align with the process. Once they do, they make the same progress as all of my other kids. I don't conduct a formal interview or application process, although admittedly, I probably should. My initial conversation with the parent/guardian is more about establishing trust, transparency, and getting a feel for where they sit in terms of expectations of learning and progress. Once we have that established, I find we are able to speak the same language and focus on the same goal of providing the best learning environment for their kid(s).

f. Could you describe the programs you currently offer for students with special needs and disabilities?

I work full-time as Director of Music at... [a college]. On the side, I run two programs: a private studio from home for children with special needs and...an organization that services children from traditionally underserved backgrounds. [This organization] is a partnership with K-12 schools and includes a mix of children with special needs as well as those without (all who live in poverty).

g. Do you offer private or group lessons?

Private lessons in my home studio, group lessons through... [the organization] (taught by college undergraduates, supervised by me).

h. How do you structure your lessons?

This really depends on the child. I work to find what motivates each individual student and use that as reinforcement. I require all parents of children with special needs to be present during the lessons as I rely on their involvement, both inside the lesson and at home with practice. I tend to break lessons up into 3-5 minute tasks so each child can feel accomplished, as I find negative behaviors are often born out of defeat.

i. What types of routines or schedules do you use with students in lessons?

I follow a visual schedule and let students choose their preferred order at the start of lessons. I try to accomplish ten things in a lesson, though this can be a high ideal for some kids. Tasks might include finger tapping, using flashcards to find and label the keys, a piece from the lesson book, a theory activity, a game, an app, etc. And I always schedule short breaks after 1-3 assignments, using reinforcements that I know work for the individual child.

j. How do you require your students to practice?

I don't. I try to make the learning process as enjoyable and affirming as

possible so that the child discovers practice on his/her own. I lay down recommended parameters for parents and I send children home with practice videos and guidelines. But I don't get upset if they don't practice because I have found, over time, that steadiness and patience always nurtures practice habits as positive relationships with educators motivate kids to do their best, which often includes practicing.

k. Do you assign specific practice methods or times?

No. I assign pieces to practice or activities, but I don't micromanage beyond that.

2. Student Population

a. What ages of students do you teach?

The whole range!

b. How many students with special needs do you currently teach?

I have 17 students in my private home studio (I've been in ... [this state] for two years). Seven have special needs. [The organization] has just over 40 kids. Given their living situation, they all have their own unique needs, though I would say over half have an IEP.

c. What special needs do they have?

Most common is ADHD, autism, auditory processing, and learning disabilities including Dyslexia.

- d. Do you solely teach students with ASD or do you teach students with other special needs?**

See above.

- e. How many students specifically with ASD do you teach?**

I've probably worked with over 30 students with ASD in the past.

Currently, I work with two.

- f. What other comorbid symptoms do your students with ASD present?**

ADHD/ADD, OCD.

- g. What are the gender percentages of students with ASD in your studio?**

All male.

- h. How many of your students do you consider to be high, middle and low on the spectrum?**

At present, they are all high. In the past, I have mostly worked with middle and low.

3. Curriculum

- a. For the purpose of this study, I am defining music reading as: the ability to identify notes, find them on a keyboard, actualize and play**

them with rhythmic accuracy. Do you use a print method series for teaching music reading?

Yes, but I would say it makes up less than 40% of the lesson time.

b. If so, what method do you use?

I don't adhere to a specific method. It's trial and error with each student until I find something that works. And then I make lots of adaptations including copying, cutting out the extra pictures, color coding, and teaching by rote using visual images as a guide.

c. Do you create your own resources for use in lessons?

Yes. In addition to making adjustments to the printed score, I create my own visual flashcards to teach keyboard geography, rhythm cards, and schedules that I used to capture appropriate sequencing. I find it best to come at a learning concept from several different angles, using the repertoire as a way of blending all concepts but not without teaching concepts independently first.

d. If so, please describe the materials you have created.

See above.

e. Do you use any other supplementary materials in lessons?

Yes, flashcards, games, etc.

f. Do you utilize technology in lessons?

Yes.

g. If so, what types of technology?

Mostly I use technology to record the repertoire I want kids to practice so they can study and watch from home. Occasionally I use technology for reinforcement games (Apps) but this is less frequent. I use timers for just about everything to help children transition between activities. And I'm constantly in contact with parents via messaging between lessons.

4. Pedagogical Process

a. How do you introduce a new piece to a student?

This depends on the student. For some students, I may break this down to the smallest possible steps, teaching them first the notes and rhythm by having them repeat verbally, "C-Rest-D-Rest" etc. until they have that mastered. Then I may have them repeat these verbal cues on the piano while pointing on the notes on the score. Once they have mastered this, I will coach them through playing the repertoire without any cues. For students who require less support, I may play the piece first for them, letting them decide how much they would like to work on in the lesson (and in between lessons). If the student has found success with color coding, we may work together on coloring the stems accordingly. I almost always send home video clips of me playing the excerpts for them to use with practice at home. My lessons are highly student driven. How I introduce a new piece will vary greatly

depending on the strengths and needs of the child.

b. How do you determine the best approach for teaching music reading to each student?

Trial and error, mostly. I have at my disposal a pallet of tools that I know work when applied to a variety of situations. As I get to know each child, I learn what approaches work. And from there, I build out and add on additional approaches as it makes sense to.

c. How do you help students navigate music reading in elementary and intermediate literature?

Step-by-step, a little bit at a time using a mixture of learning modes.

d. What teaching techniques have you found successful in helping students navigate advanced literature?

Step-by-step, a little bit at a time using a mixture of learning modes.

5. Music Reading

a. How do you introduce and correlate keyboard letter names to notes on a staff?

Flash cards. I have 3 kinds: one with colored dots on the notes, one with black and white letters on the notes, and one with a colored dot and a letter on the notes. I show the card and have the child find each note, going up (I say "going up") and going down (I say "going down"). I use various prompting techniques along the way. No explanation, just the labeling process. "This is

C, this is D" and then I show the notes over and over until the child begins to identify by him/herself.

b. Do you use mnemonic devices when teaching staff reading?

Depends on the child.

c. Are there any games or activities that you have found successful in reinforcing note names on the staff?

Flash cards. And slowly building in repertoire that focuses on one or two new notes at a time. Repetition, repetition, repetition.

d. What approach do you use when teaching steps and skips on the staff?

Flash cards. No explanation, just the labeling process, similar to how I introduce keyboard names. Sometimes we play a copy game, I play something and have the child repeat it. And then I'll say, "third" or "fourth" or "step" or "skip" etc. I find it so much easier to engage them in a kinesthetic activity and then label it than trying to teach the logic behind the concept as that quickly becomes an overwhelming obstacle that is difficult to overcome.

e. How do you introduce flats, sharps and accidentals?

Pentascapes are best for this. As we move through them, I can teach the note F-sharp as just F-sharp or E-flat as E-flat, again without having to talk through the logic behind what makes the note an F-sharp or an E-flat. The student just learns the label, quickly memorizing it, without needing to know

the precise technical definition of what makes an F-sharp an F-sharp.

f. How do you incorporate counting with music reading?

I find out what is used in the K-12 district and try to keep it consistent in my studio. The local schools use Ta's and Ti's (not numerical) so I use these in my studio. Often before we begin playing a piece, I'll have the student repeat the notes verbally to me, counting rests verbally, singing the letters for their rhythmic duration, relying on ta's, ta-a's, etc. as needed. And then I have them mimic my playing while using the verbals we just did together. From there, I color code the music and we incorporate the visual into what we just did by rote. It's more efficient this way.

g. Do you use symbolic notations for counting?

[No response]

h. Are there any games or activities that you have found successful in reinforcing counting?

Flashcards are fun but require intention to assist with transference. The most success I've had is in having the student copy me and sending the student home with short video clips to use as reinforcements to their ears when they are learning to read the music at home.

- i. What teaching techniques have you found successful in teaching music reading to students with ASD?**

All that I reference above.

6. Accommodations and Vocabulary

- a. What accommodations do you make for students with physical disabilities such as vision/hearing impairment, immobility, muscular coordination, etc.?**

Depends on the student. I try to toss perfectionism out the door. Baby steps are key. And whenever possible, I strive to give the student voice in the process, relying on him/her to tell me what the needs are so we can make the necessary adaptations and accommodations.

- b. How do you communicate with non-verbal students or students with significant intellectual disabilities?**

This is surprisingly less difficult than it sounds. I conduct entire lessons without having the student say a single word. Simple prompts like "do this" or "listen" or "your turn" can be highly effective. Assessment is more effective when the child is engaged in a task than through conversation anyways. I rely heavily on intuition, empathy, and I study the child as I learn to speak the unique language he/she brings to the studio.

- c. What are the most important aspects of communication with students with ASD/special needs?**

Paying attention. Reflecting. Being responsive to every gesture, not

matter how big or small. Simple language, literal language. Being calm and nurturing. But most importantly, being patient and creating space for the student's voice to surface over time.

- d. What vocabulary do you use for counting to avoid number confusion with other numerical uses in music? (Measure numbers, finger numbers)**

See above (Ta's, Ti's, syllabic counting).

- e. What are your procedures for addressing behavioral problems in lessons?**

I interpret most negative behaviors as communication. It always serves a function, either to communicate something or to get out of an overwhelming task. I strive to understand the source of the behavior and take steps to avoid triggering the behavior in the future. Prevention is always best. Knowing each child, what is reinforcing, what is motivating, what works best for him/her is key to being successful in this area. Schedules and routines can be critical as well.

Do you have any other suggestions to offer piano instructors who are teaching music reading to students with ASD?

[No response]

RESPONDENT 3

The following are the complete interview responses by “Respondent 3.”

1. Background

a. What prompted you to begin teaching students with special needs?

I've had a few Autistic people in my family, so I've always had a heart for people that think a little differently. Then I had four children and ended up being a single parent. (My children are now 31 to 38). I read the latest parenting books: Ages 1-2, 2-3, 3-4, and so on. As my first child grew, I found that the manuals weren't addressing problems I was having with clothing sensitivities, outbursts in public, and my daughter's perception of the activity we were doing. Much of the advice was good, but with her, as well as another of my children, sensitivity issues with clothing, smells, and people were not addressed. My feeling was, "They broke the manual on this one." I was their primary, stable parent trying to keep the environment calm and healthy. They went to their dad's house every other weekend. I would spend Sunday evening mopping up the emotions from the trauma that happened most of the time. I went from traditional teaching and performing (I was a performer, also) to where I needed to make money, because I decided to stay home with my kids instead of going to work as a financial analyst, my career before becoming a parent. I had also been teaching a few students before my divorce.

I had already been teaching about 12 students who were very typical. I entered them in adjudications and the National Federation of Music Teachers and other special events. When I came to ...[this area], which is where I live,

many of my new students were children of professionals. Doctors, lawyers, 'techie,' and Boeing Aerospace Company, and usually they have a fair amount of money if they're living here.

As I grew my studio, I found more students came who were just a little different, inattentive, and sometimes just strange. I wanted to find a way to bring their attention to the music, and help them be successful, not only in progressing in piano, but in their lives. And what I found was many parents were just desperate to find something their child would be happy with and something that would help them. In the meantime, three out of my four children were diagnosed with various disorders: 1st child, Daughter: Passive ADD, 2nd child, Daughter: Auditory Processing Disorder, 3rd child, Son: PDD-NOS, and the 4th child: Son -supposedly normal. The oldest 3 had Individual Education Plans so they had various things going on.

Passive ADD could be described as a disconnect between one task to the next, i.e. doing your homework and leave it at home, daydreaming in class, and just like disconnect all the time. These issues, along with being hypersensitive to her clothing didn't resolve through the years until she became a young adult. I believe now she would be more considered high-functioning Autism on the Spectrum instead.

The second daughter had huge auditory processing issues. If she walked over from the other end of the living room with something that she wanted to tell me, by the time she got here, she'd forget. And it would be like, "Mom, mom, mom- oh, I forgot." She had her own strengths: she had a lovely, bubbly personality, curious mind, and very social, but it was hard to get her through school as she didn't understand directions if they were given verbally.

The third one was just highly, highly sensitive and reactive to everything. We went into counseling and therapy for him especially because he just wasn't thriving from preschool on. And yet, he's brilliant, beautiful child who has such a great heart, but when it came to too many kids, too much noise, too many smells, just didn't thrive. Eventually, he was diagnosed with Asperger's Syndrome. Finally, we had a good diagnosis and the treatment that helped.

The fourth one seemed normal, but now he says, "Mom, I'm quite sure I'm ADD." So that was my life: teaching piano and trying to find a way to help each of my children get through their lives and get through school, which was so challenging. They all graduated and the oldest one has her degree in music. The second one is a Project Manager for an International Real Estate Company. She's tried for many years to get her real estate license and just can't pass the test. She knows all the content, can't pass the test and is finding the same thing as she goes through business school. It's just so frustrating; there are certain things that she just doesn't seem to comprehend or retain. My son with the Autism Diagnoses struggled throughout his 20^s and now in his 30's, is doing well. That was my beginning of understanding.

Then, as I started teaching more children that were needing a little more extra attention- because if you are raising four kids, and you have their friends coming over. Because I stayed at home, I was able to be an inviting home for their friends. I got to know other children and parents who had the same problems. My third child, in I think third grade, they were remodeling the school and put his class in a portable with about five other kids, among the 30 students, that were not diagnosed. All were either ADD or diagnosed with PDD-NOD. There was a great deal of construction noise, and the smell of the

portable was different, with the carpet and materials in the walls. These kids were more volatile and reactive than in the previous year and were looked at as behavior problems with parenting problems. But I believe that with every one of them, they were reacting to their environment, and were highly sensitive.

I taught many ADD diagnosed students through the years of 1988-2000 with so many on medications. Then in 2000, I moved into a new house with a private entrance for my studio. Now I could work more with children who couldn't handle the stimulus of my previous house and studio. One of my parents begged me to take her daughter for some sort of adaptive approach. She was on the Autism Spectrum and would come home from her special school crying every day. It would take over an hour to help her calm down. I taught her other daughter, just typical, lovely pianist and she always left happy and encouraged. Her mom felt that since I had a special needs children, I would understand her better. Our goal was for her to leave her session happy with some piano play to help, and she was definitely my first diagnosed Autistic kid. It was a "make it up as we go" approach. So that's how I officially started in 2000.

b. What process did you go through to begin teaching students with special needs?

At that point, and this was probably back in- I went back to school. I went back to ...[the university] and was actually finishing up my degrees in performance and pedagogy. I had married at 20 and didn't finish, so I really wanted to. I had been teaching all those years and had been a financial analyst

for a few years before I had my children. I was on staff on my church as pianist, organist and handbell Choir Director in addition to teaching piano. I always had a studio of at least 12 until I became a single parent, and then I studio of 30, then 40.

When I went back to school, there was not a music therapy degree at the time here in ...[this area]- that's what I really wanted to do. But they did have a couple of music therapy grad classes which I did take. That was the exclamation point to where I was already gravitating to in my teaching career. During that time, I bought my first Yamaha Clavinova CVP, and I just had it in the studio as a second duet piano. What I liked about it was the fact that when I was teaching Bach and other Baroque composers, they could actually get a fairly decent harpsichord sound, and they loved it. I found that adults and children got the whole idea of how you articulate Bach because of the harpsichord. That was it.

I'm a composer and arranger. I had used them [Clavinovas] in my church arrangements and my University used them in the Music Labs. I took a year of Finale Notation in the lab and got really good at it and how to use the Clavinova. Then I took music tech also, and they used lots of various keyboards. I knew I was good with technology, and then to have tools to create music using MIDI, Synthesizers, Disklaviers and other devices made my dreams come true. To me, it just made sense: to use technology for putting more dimensions on your teaching. So that started that whole process.

As I was developing my Special Needs studio, I had a student... who was very sensitive to sound, so I so I needed to manipulate the volume and turn it way down. Then we could have a successful session. With other students, they

would react to the way they played the notes and not like the sound of the piano, so instead of having a brittle attack, we could make it quieter or change the piano sound to harp. I've found through the years that so many kids are highly sensitive, and yet we want them to go [plays keys loudly on piano to demonstrate] and some of them are trying to do what they're supposed to. So instead, I put them on harp and immediately, they relax.

I started reading more research into how we think that was out there at that time (in 1997). One of my professors gave me Don Campbell's book "Music: Physician for Times to Come." I started reading more of Don Campbell's books, and then he became very well known for "The Mozart Effect." Much of his research resonated with me because as I was observing how my students improved as I was. Learning more about the effect of music on our brains. I think I've read every book he has. I've read most of Oliver Sack's books. (He is a well-known Physician and Neurologist.) I met his companion a couple years ago at a music therapy national convention and have gone to many talks about his work. I pick up new ideas to try, talk with other teachers, parents, and the students themselves. I read many articles, save them, and have communicated with many experts in the field of neurology. It was never an official study as my pursuit of "Music as Medicine" was not being taught. Looking back, I am thankful that I needed to create my methodology on my own as it led to such breakthroughs with my students.

One of my friends was a music teacher in schools until she retired. She went back to the University to get a degree in Music Therapy. She planned to open a practice in my studio with a focus on Autistic kids, non-neurotypical.

However, the emphasis in the program was on traditional populations – physical disabilities and the aging populations, not on neurological disabilities such as Autism. By the time she completed her degree, she didn't feel much more qualified than she had before. She went into senior care, more of the typical musical therapy. That's not where I wanted to be. I wanted to be that adaptive, one step into everything classical and everything piano, but also more with the therapy, so one step in each field. Several years ago, Dr. Randy Faber hosted a Special Needs Panel at the MTNA National Conference in Albuquerque, NM. He asked me to be on that panel, along with other professors and teachers who taught special needs children. The term we arrived at to call this practice was "Adaptive Piano." Dr. Faber and our panel were astounded at the attendees to our round table. It was a very large conference room, and it was standing room only. Previously, there had been very low interest in teaching special needs populations.

So that's how I got into working with children and adults who were not your typical students. To me, my favorite things are music (especially organ, piano, anything with keys), and the brain- how does the brain work, how can we use not just the typical standard methods, but how can we use non-typical solutions for calming the brain and unblocking the person.

c. Are there any resources that you found to be helpful when you started teaching?

I don't think there was a lot done on this back in that time. I started teaching piano very early in my life, 1972, and joined MTNA in 1988. I can recall alternative ideas regarding styles of learning weren't considered much

during those years. Ideas, techniques and communication with other teachers didn't really start to bloom in the field with Autism and music until, I would say, 2010, 2012, 2015. It was more like teachers just ran the other way. There's no way they wanted to be working with somebody who was profoundly Autistic, and that was more the view of what anybody on the spectrum was. There was no spectrum. Just if you were Autistic, you were profoundly Autistic, you were probably violent, you probably didn't understand. It would be more like teaching someone who was not functioning at all. Now we truly know better because there have been so many advances, but I didn't believe that. I really felt that many Autistic people can't talk, but that's not their main way of communicating anyway. Now we know there is a wide variety of personalities and neuro development of the Autism Spectrum.

So if we can interpret all the ticks and movements, voice pitch, and triggers of the student, you are learning their embodied language and will have more understanding on how to communicate with that students. I have a profoundly Autistic 18 year old I'm teaching, and when he gets stressed, he goes, "We wish you a Merry Christmas." So I thought he wanted to play the song. Which, he may have, but that's his code for, "I'm stressed." You have to learn the individual language of each person.

How is that much different than when I'm stressed and I say, "Oh, leave me alone and I'm going to go in a corner?" I'm able to tell you, or maybe I don't, because I don't feel like talking, but I might go in a corner and read if I'm a true introvert. We do some of those things, so it's just trying to un-code and understand the human, whoever it is.

d. What methods did you use for obtaining students?

In the beginning, it was word of mouth because I was not an expert. I began getting my reputation back in the 1990s as “She’s the teacher who will take your ADD child.” Most students didn’t do well with a traditional music teacher. I just treat them like my own kids; I’m like their ‘musical aunt.’ I ask, “What’s going on?” A lot of them want to talk, and I’d just let them talk for a few minutes, and empathize with their perspective. Then we would transition, “Let’s get to our music.” [The student would say] “Oh, I forgot my books.” [Teacher response] “Alright well, I’ve got extra ones here but try to remember them next time” to work on those skills. As they played, I’d notice that the kids with ADD were the who could play straight-on and would play and try to talk to you at the same time. So multi-taskers. And occasionally, you’d get one who’d say, “Look what I can do,” and they would flip over, and so I started thinking, “Huh, this one’s like this one, and this one’s like this one.” So I would say to the parent, “Do you mind to tell me what you’re child’s like at school? No judgement, I’m just trying to understand because every brain is different.” She goes, “Well, they’re a handful at school and yeah, we’ve been through a psychologist and yeah, he’s classified as ADD.” I’m like, “Okay, I kind of thought so. Not a problem, I know how to work with them.” (Even if I didn’t at first.)

What I learned was, kids with ADD characteristics were more engaged with jazz rhythm. I would play for them a lot and have them move, dance to the music, then they could get it. So I’m like, “Uh huh, okay this one needs this” and yet we have like minute timers. I would also trade turns and say, “Ok, you got 5 minutes; you sit here, don’t talk and listen to me and then you

can for two minutes, you can [do] whatever you need to do.” So working with their brain instead of as a constant teacher, “You will do what I say. And if you can’t out with you.” Again, respecting the human.

After I was more confident in changing my teaching methodology and was seeing great success, I began receiving referrals from parents and teachers with my MTNA chapter. At first I got a reputation for working with ADD children, teens with depression issues, and then later with autistic children and adults. When I started working with the Autism community, I was part of a couple of autism parent groups. My 3rd child was finally diagnosed at 16 with Aspergers Syndrome, which is now High Functioning Autism. He had been in therapy at Children’s Hospital Behavioral Health since he was 8 and was a child that was considered PDD-NOS, Pervasive-Development-Disorder-Not Otherwise Specified. I knew from first-hand experience how much music helped him get through his day. I was asked to be on their Autism group list for extra-curricular activities. By then I had written a few articles and I’d been in different local papers for the work that I do and it just kind of snowballed from there. And so that’s how I get them. I probably get 3-4 requests for either autism work or regular lessons in the studio every week. I have four piano teachers. And right now, one of them are trained in working with autism. She is also mother to an adult on the Spectrum and teaches voice and piano. I am the specialist in our studios for Autism and other Neuro-diverse styles, but the other teachers are learning. I have 3 studios downstairs in my home. I chose to continue teaching in my home and expanding my studios as I found the highly sensitive children were more relaxed and

attentive in a home setting.

e. What interview or application process do you use for evaluating potential new students?

For the non-typical, the autistic kids, a phone interview first of all. So before I see them I want the parent to feel comfortable with me. And I want them to know that they don't have to be defensive or nervous. Sometimes they will be anyway; hands shaking and all this. But let's chat on the phone before your child comes in because I want to know your story. And I do. I want to understand what they've been through. A lot of the reason I do this is to get the parents help. Because they have been through so many things. So many camps. So many therapies that they pay out the nose for and yes, some of them work and it takes a long time. Some of them don't work. They give up. They feel like they're a failure. And I don't want that. I know what that's like. I do a phone interview first of all during the day. And then we schedule the first meeting. And I have them pay for that because my time is pretty valuable.

Right now I've got 48 students. And if I'm going to take on another autistic kid in particular, I need to make sure it's not going to be too much for me with how many I have right now. I say, "If you'd like to start then let's do it for a month. I'm going to put you into the schedule. Because I only have two spots. If that works for you then I'm going to put you in. I'm going to try a month to see if I'm a fit. If I'm not, then I'll give you to another." And at this point it's only the more advanced students. I'm not taking beginners again unless they are family or friends. So but then I have the other teachers but I tell them it's the same thing in our studio. "You pay for a month. You don't

get freebees." Because no matter who you get, I've mentored them to be warm and fuzzy they are all professionals. They are all performers and they have their degree in music and are proven teachers. Try it for a month then we get somebody else if that doesn't work. So that seems to work well.

f. Could you describe the programs you currently offer for students with special needs and disabilities?

At present, it's all private. Just one-on-one lessons because they do better. You get another child in the room with even for 5 minutes and their energy changes. You can see it. They show off or they close down. I don't want that. I have a rule. You can see it's on my front door. They need to come in not more than two minutes before their lesson and be very quiet. Even though it's part of the open house welcoming, that way I get as much time as I need with that student. And they don't get the energy from the next person coming in.

I ran a camp for 15 years. We called it ...Music Technology Camp. And it all came out of all the cool things I was doing with technology on the Yamaha Clavinovas. I'll tell you what the camp was about first of all. I always have children at least once a year compose a piece. And if they play a piece really well we might have them play it again like strings and pan or something. If it's Christmas songs, they get that Christmassy treatment. Halloween is a great holiday for orchestrating pieces. Students learn a Halloween piece, then they play it in like theater organ, Vibraphone, Synth sounds, etc. We can record 16 tracks, to the possibilities are endless for adding parts, and sound effects. I teach them how to record the tracks, adjust the volumes, and other music production skills. They are learning music technology in addition to

improvisation and orchestration. Their ear becomes very sophisticated on finding sounds and parts that make their piece pop. It is always such a hit. And that's one of the reasons why my studio was never not full is because we do creative things every quarter.

One year I was just so tired of having kids quit for the summer because I don't quit. And then come back and they weren't great. So my rule is that they always had to have at least 5 lessons over the summer to retain their spot in the studio. If they don't come they don't get a spot in the fall. It's just first come first serve. But then I thought, "I'm so stressed out trying to feed my four kids. What can I do? What other product can I invent?" So I started the Music Technology Camp and I partnered with a music specialist at the elementary school who had her degree in Music Technology. And one of my students had gifted the school with a Clavinova because they so believed in them. I met her for the first time when I went to show her the models and ones I thought she should have and she was able to choose the one she wanted. Then I taught her how to use it and presented the idea, "What do you think about maybe doing a camp?" Our first camp was held in the school she taught in, 3 rooms. One room was 7 Clavinovas of which my music store let me borrow 5. I couldn't believe it, but they did. We moved my studio Clavinova to the school. Room 1 was the Clavinova room, Room 2 was Garage Band Lab. The teachers would teach them Garage Band and how to make up songs for that. Then my daughter, who was just graduating from music school at the time, she is also an artist, was the 3rd teacher in the Art Room. They would listen to music as they did created program covers and artwork to go with their own pieces. Eventually, as iMovie was available, she helped them write a movie

script and then they filmed it and they added their own background with Garage Band on it. It was a hit.

There was a morning camp and an afternoon camp. We played around with different formats, but this always worked the best. So if people wanted their child there for the whole week, they paid for two camps. Those who had never touched a piano, I didn't teach them piano lessons. All I taught them was how to pre-form compose on the black keys. We would record that and I would add a part to that and I would help them make more things. Teach them how to go up, with maybe pan or bells, so then you are laying a track on track and they are getting these gorgeous kinds of pieces. So that's how you use these instruments.

So, what we found was between that and the movie and the artwork and the iTunes and the fact that they had headphones on almost all the time, that it was a real hit with the kids on the spectrum. If the child needed an Aid to function in a camp setting, we encouraged them to come. We would teach the aid, and they would work with their camper. Children of all abilities were there and they loved this camp so much they would come every session, and some of them every year. Several of our campers who were with us from the beginning became counselors. One of them at age 13 or 14 built my website for me and he is still my webmaster. This camp gave kids permission to just play in the playground. So that became my phrase, "We're just going to play in the playground of music- write your own script." And it was so freeing because the only instructions were to be kind to your neighbors, you treat the instruments well, have creative ideas- so it was a real great technology fine arts camp. And it got kids away from playing video games all summer and

into the area where I can use technology and do what 's in my creative brain instead of pre-fab games and that type of stuff.

We ran our camp for 15 years until my co-director just got tired. Her mother was not well and she needed to fly down to California all the time and I was getting tired and so we stopped. And I've had a few camps here at my house and little smaller, not the 30 kids we used to have. More like about 5 or 6 and we teach them technology from able to push/launch pads and all kind of stuff in the summers. It is fun. One year I marketed to have an Autism Spectrum camp but the kids didn't want to come. They wanted to be with typical kids. They didn't want to come with other special needs kids. I got like two people signed up and they said "No, we'd rather my kid could go to camp and be just like a kid." I'm like, "Okay, then come to this camp, this is a typical camp." So I just thought, 'forget it.' I did group lessons where every 6 weeks there would be a group lesson instead of their regular lesson. And that worked well until it seemed like in the last 10 years kids are over structured. Between math clubs, sports, dance, choirs and piano it just didn't work anymore to just have these groups where they could be with kids their own age and have sort of like a piano club. So, I finally said, "No, we're going back to simple, private lessons again." I've taught all different kind of things like that. Now it's just private.

g. Do you offer private or group lessons?

Currently, just private lessons.

h. How do you structure your lessons?

It depends on the student. Typical kids, non-typical kids, I welcome them, they sit down and I say, "How's your day going?" I always want to check in because I want them to know I care, and a lot of them, they can tell me anything. They might go, "It wasn't a very good day." I go, "I'm so sorry, let's play some music and cheer you up." And then later on, they may share after they played some music. They may go, "I want to tell you what happened today." I said, "Yes, please do." And then they will tell me and then it's like, you can be coaching, you do coach. And to me music is emotional, it's our soul, it's our soul talking. It is not in my vocabulary just to be having a lesson and not knowing that child. So, they know it, they know it for years. I have so many Facebook friends that are former students that still check in with me because they know I'm interested. I shoot them a line.

We check in and they have an assignment book that I look at and they're supposed to always have that in their materials. I use the Faber Piano Adventure series the most. And I, so they get out their books, they usually start with their lesson book, go through that and see how they are doing. Technique book, theory, and then their extra piece, so sometimes I mix it up. It really depends on where they are at. If it's a High schooler who is going through finals in two weeks, we may do just a couple pieces that are really calming to them, that help them to feel good. So they come in and play their piece, I let them play through once, I let them get comfortable, don't want to critique them right away. They play their piece, and then I say, "Let's go back and look at this part right here, pay attention to this little thing as you go through right here." And so, I just kind of tip-toe into helping them with their

pieces. I do a lot of play-back where I'll say, "Ok I'm going to play it and I want you to watch how my hands flow and what goes on." So a lot of interaction. So they always hear their pieces at least once before they play and they might hear them through. And do it throughout the course of that piece being taught. Now for non-typical kids, it depends. It's very customized.

i. What types of routines or schedules do you use with students in lessons?

That's how I structure the Autistic kids...I don't! With the Autistic kids it then migrates into a more typical structure, but then the other ones it's truly therapy. I think you get it, it's the typical routines with the typical students then migrate the other ones toward that when I can. Some of them, it will never be anything more than recreational music.

j. How do you require your students to practice?

First of all, I'm a mom of 4 kids. I know how to bribe them. I have an envelope here of piano dollars that I tell them I have my own counterfeit money. I just made it in Publisher, it says "One piano dollar, one hundred minutes of great practice. Save your dollars for the studio store to local gifts and businesses." And then it's authorized by ...[the teacher], and I have my studio logo on here. They get piano bucks, piano dollars for one hundred minutes of practice. So for the typical students this works great, for most of them, some of them really don't care until they see that some of the other kids are getting cards to local restaurants or the local bookstore.

But for most typical, between their parents and I, I'm trying to take the

work off of parents every day to nag them to make them practice. So, one thing I realized with my own students, my own children, was everybody needs a little incentive. Ten of those is 10,000 minutes of practice. Are you going to nag through 10,000 minutes of practice or are you going to incentivize somebody? So, by doing that we keep it in the back. I have an envelope or baggie attached to their assignment book and then as they get those and as they earn 100, we celebrate, and isn't like 100 every week, it's accumulative. So they might get 95 and it's "Wow, you almost made it." (Knowing that they might have fudged on their practice time.)

And I have the parents check it also. But, no if it's 95, it's "Ok next time you're going to get one." And I try to use my enthusiastic voice like, "I know you can do it!" And then they come back and sometimes I have some kids that practice an hour at night now, because they're earning piano dollars. Not because, yes they love music, but because they are getting something. So the beauty of that is, in the beginning in the registration there is a music fund and it's \$30.00, and that's where their materials come from. Out of the first one I do a music loan free because I'm going to be loaning them more. And it might be more if I'm going to be getting them more and I just keep track of it in Quicken and deduct the music and the gift cards from that and when they run out they get another music fund fee for \$30. Is not \$50. It's not that much and Parents are fine with that. And chances are the child has gotten at least one gift card of \$10.00. I had one little girl that saved hers until she had \$35.00 because she wanted a blown glass hummingbird feeder like I have. She got to pick it out from Amazon, she got the one she wanted, and I ordered it and when she got to \$35.00 Piano Dollars, he got it. She's a great pianist and

ballerina and student. It's just a matter that you've got to work with the world today and then that's what I realized back about '95, that I personally need to revise how I teach piano with the goal of students who will love playing piano the rest of their lives. I will do whatever and think it through and study it, and what comes to my gut. And it's just innovation, using good business practices with creativity and coming up with the newest thing that really works.

k. Do you assign specific practice methods or times?

I customize lessons for the student's ability and attention span. Some may only get 20 minutes a week because they just don't have the attention span to sit. That's part of the therapy part of it- you try to do enough bells and whistles and tools to keep their butt on the bench longer and longer. I've had some students and I will ask their parents, "How long in their attention span?" "Oh, about 10 seconds." So my goal is to get it to a minute, then 5, then 10. If you know that information right there, then don't ask them with video games. Those they can do forever. It really depends. The more information you have, yes the parents don't want to tell you first. They're so humiliated, and they have their defenses up so that they won't get yet another failure experience. It's not it, it's not about it at all, we're just going to work at this and gain more tools. And with the experience and just study, I have to say that a lot of this I have not gotten from other teachers. The same goes for practice, project-based practice, not time based. If the child is focusing on the concept of teaching their brain the piece, they will focus longer and make more improvement. Customizing the lesson and practice to the child makes the

lessons successful.

7. Student Population

a. What ages of students do you teach?

Ages 3 to 100. When they're on the spectrum, if they've been diagnosed early, I want to get them in. It may be all piano play, but the more sound you're getting towards them and organized music towards them, not that they have to play, but coming towards them, the better. I felt like there's a magic number of 20-minutes that calms them down, it calms down the cortex. A lot of student stuff and interaction of different kinds. If the parents coming to me saying "My child was just diagnosed," I would respond, "Well, let's get them in at least for a month and we'll see." Some of them it's been the biggest lifesaver for them from the beginning and it seems to help a lot to not lock the parent into a full year commitment if it is not a working situation.

When a child starts developing more symptoms of autism, they are shutting down, parts of them are shutting down. It's almost like a maze, where they are getting more and more walls built up. Whether it's talking, or looking at you, or touch, they are shutting down, and you want to blow that open and the music seems to really help it. I feel parents need to have their babies around music from the beginning to help develop the brain. 20 minutes a day interacting with music, with a piano, xylophone, watching a talented child play the piano on YouTube can make a big difference. Parents should make music part of their child's routine. One of my really profoundly autistic girls who is 18 now, doesn't talk, she said two things to me in a year and a half. One is "what color is your nail polish?" which was a whole sentence!

And the other was, "Can I smell your breath?" Other than that, she doesn't talk to me. We do the hand play on her favorite songs and this type of stuff.

b. How many students with special needs do you currently teach?

Right now I have 47 students and I think 25 of those are special needs. A couple are on just a month break. Winter time is not good. We've had a lot of asthma, tons of snow here, which is now gone. Some kids have a more seasonal affective disorder. They are highly sensitive. They don't do well in the winter. Sometimes it's a good reason to get them in, other times it's survival mode for the parents.

c. What special needs do they have?

I mainly have Autism students, but have had Down Syndrome, Tourettes, ADD, Bi-Polar students, seniors with Parkinson's, and other needs.

d. Do you solely teach students with ASD or do you teach students with other special needs?

I have 6 adults right now and one is an 88 year old with Parkinson's, and I'm teaching him piano. He is using a squeeze ball to get his fingers stronger. I've given him a play list of music to listen to as he walks around his house using his walker, to walk in time, to clap in time and then he's playing. So we're going through his book a little more slowly. I have a professional who is brilliant and on the Autism spectrum, and we do piano for a while and part of that is to get her not to talk about herself but to play. I have to say, "Okay, it's time for you to play now." She's also a really good clarinetist and has taken

lessons but doesn't have rhythm, so now we've morphed into, just this month, she's playing the clarinet and I'm playing the accompaniments and helping her get that. Then we record it so she can prove to her teacher that she's actually got some rhythm.

Some people may have different needs and that's why they take lessons. I had a pediatrician I taught for about four years who had a nervous breakdown, walked off her job, and just too much stress. We used music to instill that joy and get her feeling good again. And another physician, a high-level surgeon who had a damaged hand, so we used piano songs he knows from when he was younger. When he would play those songs, he would be relaxed. When he wasn't, when it would be something else, he tightens up in his arm and it would shake. It's pretty amazing. One again, it's just the power of music to help you muscle through.

The rest of them are all autistic, but I've taught kids who were blind, deaf, autistic, had down syndrome, Tourette's syndrome. I had student that I taught for a while who was so embarrassed, but he had mitochondrial syndrome which was interesting. Low muscle-tone, sweet little kid, didn't talk, and really wanted to do it, but he was so embarrassed that he couldn't move his fingers. So we talked about some other therapy she (the mom) could try with him.

e. How many students specifically with ASD do you teach?

About 25 students have ASD.

f. What other comorbid symptoms do your students with ASD present?

OCD is a huge one, and bi-polar with melancholy like Eeyore, and high sensitivity. I have a lot of them that are sensitive to sound unless they're the ones making the sound. If they're making it, they like the sound and they like to make a ruckus. Tags on clothing, seams on clothing to the way things feel is huge. Food sensitivities. A lot of parents are getting on this and cutting out sugar and gluten and that kind of thing. Tourette's syndrome. Some kids may have three or four things going on at the same time, and it's never just [autism] without another component, I think.

Some of them I don't ask, but some of them you can definitely tell.

g. What are the gender percentages of students with ASD in your studio?

It used to always be like 4 boys to 1 girl, but I was looking at that and right now I still have more boys than girls, but more girls than I used to. If my math is correct, I currently have 10 girls and 19 boys on the spectrum.

h. How many of your students do you consider to be high, middle and low on the spectrum?

girls: 3 high

3 middle

4 low

boys:

8 high

4 middle

7 low

I have one family where all four kids are autistic, and another family where both kids are autistic.

8. Curriculum

- a. For the purpose of this study, I am defining music reading as: the ability to identify notes, find them on a keyboard, actualize and play them with rhythmic accuracy. Do you use a print method series for teaching music reading?**

Yes, I do.

- b. If so, what method do you use?**

I use the Faber Piano Adventure series the most.

- c. Do you create your own resources for use in lessons?**

Yes.

- d. If so, please describe the materials you have created.**

I rely a lot on the midi files, and I use my book of adaptive music. What I've found with the Piano Adventure series is that I use the accompaniments a lot, because I want calm accompaniments. So if they've got those, I'll use them, and if not, I'll make my own and make it more calm. Faber's are written

so well, so it's like, why invent something that not broken. That's where I start.

I may pull a song off of YouTube for somebody, a video game song, but whatever it is I'll download a midi file and improve on that. If a kid says, "I've got to play Thomas the Train" then don't fight them, turn it into something you can use.

e. Do you use any other supplementary materials in lessons?

No other method books other than lesson, theory and technique and their extra piece. Sometimes I mix it up. A student brought a new one to lessons that I want to get, and it has the note color-coded. I'm going to get that one to reference. It had a lot of common songs in it so I could make more midi files, so I'm still looking for that book.

f. Do you utilize technology in lessons?

Yes, I do.

g. If so, what types of technology?

Besides the Clavinova and midi files which I use a lot, I use YouTube and the Yamaha Chord-Tracker app, which figures out the key and you can play along with. Piano Maestro is probably my biggest go-to, the other Joy Tunes app, DustBuster. That's working with one of my autistic girls who is in 7th grade, and I teach her three brothers who are also on the spectrum. She is the one who always has her stuffed animal and blanket. I asked her mom if I could work with her for a month as a trial. She liked coming and working with me,

and so we started with a little of these apps and making up her own songs on the keyboard using sounds, and she opens up. Now she's totally opened up, she is sharing and talking and coming alive. After 3 months, she decided she was ready to learn to read music and play the piano. Now we have added 2 songs a week. I know she is in other therapies too, but music has opened her up. She was a very blocked girl. She still has her stuffed animal, but she's talking and conversing. It's a combination of coaching and adaptive teaching. Whatever it takes, we'll figure it out!

We record a lot of music. If a child has a piece that they've done well, we might record it and add other sounds to it. I convert it to a WAV file and send it to their parents. I do a lot of playing the song or recording it and sending it to the parent so the child can hear it, so they don't just come to their lesson, hear it for five or ten minutes and have to produce it. The parents all use Dropbox, and I also use voice memo or a recording software. I think that's important that they have that to help them practice.

For my students who have a Clavinova, I make sure they get one that has the USB so I can send them the files for their lesson books or technique books. They're not to play along with them all the time as a crutch, but I want them to 'see, hear, do.' The kinesthetic is usually the biggest help for kids like that.

9. Pedagogical Process

a. How do you introduce a new piece to a student?

By listening. You can't lecture these kids. Use show and tell first- don't

use a lot of words. So we'll listen to the whole song [on the Clavinova midi file] first, then I'll play just the piano part. So we can do both, with the soundtracks or without. And I might say, "The left hand is using this cool tool called 'Alberti bass.' You know the C chord, you know the IV chord, the V7 chord, and now we have a cool pattern" [plays examples].

So it's more of that kinesthetic rather than explaining verbally. I might say "Look at this, it's just bottom-top-middle-top. Can you try it? Great. Now try it with your eyes closed." So once again, get it into the physical. And we go through it that way with each chord.

So always, always empowering and affirmative, not negative and with critique. By teaching in an encouraging way, they can get it in their brains quicker. If they play it then close their eyes, you take away the visual sense, relying on touch and ear. I introduce new concepts but don't use a lot of words, have them listen to it, show them cool things about it, show the right hand a play a tiny bit then let them try. I do a lot of finger on the page so they're keeping their eyes up there and looking. If I do that and set that precedence from the first to keep their eyes on the page, they're more likely to be good readers. If they can't do, I just say, "That's okay, we'll keep trying." Look at things as more of a neurological problem than just strong-willed. There might be some strong-willed in there, but if they have a bad habit of some sort, it's not just willfulness. Their brain isn't adapting, it's trying to figure out how to do it. My favorite concept this year is to teach the student: to learn a new piece, your eyes and fingers are teaching your brain the music on the page. It is so important to play every note and rhythm correctly from the first time, even in slow motion. Once your brain (Like a computer),

understands, through correct repetition, then you will learn the piece well. If you make a mistake, your brain thinks that is the right note or rhythm. Then it is harder to correct an imprinted mistake. Kids love to hear about their brain. This has been my best “seller” so far to help my students play their pieces slowly and correctly from the start, no matter their ability. If you’re gentle rather than harsh, understanding that you’ve got to train the brain and help teach it a new neuropathway, whatever it is, keep the positive and the love in the lesson than the judgement and the critique.

b. How do you determine the best approach for teaching music reading to each student?

I do it the same. I go through the Faber book. I’m kind of in disagreement with books that do the Middle C position a lot.

c. How do you help students navigate music reading in elementary and intermediate literature?

See, hear, do. For beginning lessons, what you see on the page is what you have to do with your fingers, but you’re using those fingers to teach your brain. The more you can do it correctly and slowly and teach your fingers to play patterns (which is difficult because your brain might not be used to such complicated patterns) really works. I sing a lot with them. Our first instrument is our voice, so by singing they tend to connect that with the keyboard instrument. If they need help like with moving between fingers two and four, just say, “Okay, we’re going to do it a lot and help un-stick your brain.” It’s all about teaching your brain.

It makes me crazy when I see the videos, go to sessions and teachers are saying, "I've got this new student and I just can't get them to curve their fingers right." Forget about it- they will learn! Teach them to love music. Help them to be successful at first rather than a failure because they don't have the muscle coordination and they haven't taught their brain yet how to control all this. You're getting the cart way before the cart there.

d. What teaching techniques have you found successful in helping students navigate advanced literature?

A lot of minutia, going through and recording the whole song so that they hear it. Once you train your brain and your brain understands it, you'll be successful. So you play slowly to learn those little secrets. If someone is trying to learn a leap on the keyboard, I'll say, "Your pinky finger has a brain. Teach it to be smart." So little weird things that make them remember it and they work.

5. Music Reading

a. How do you introduce and correlate keyboard letter names to notes on a staff?

When you get kids to think in pictures rather than words, it makes more sense to them. So in a primer level book it has the grand staff, but I love that it only focuses on C, D, and E for two songs. I'll say, "Point to C. Now point to C on the keyboard." Hand-eye coordination. I'll do that the same- have them say, play, and point it. I love how the songs move slowly with just middle C,

then C and G.

b. Do you use mnemonic devices when teaching staff reading?

I do. I usually concentrate on F-A-C-E and All-Cows-Eat-Grass because it's easier to remember those than the other ones. So I just have them stick to the space notes and then count up one.

And I love how you have middle C, then three spaces up is the next C, and three spaces below middle C is the bass C- it's a mirror image or reflection.

c. Are there any games or activities that you have found successful in reinforcing note names on the staff?

No. Just point, play and sing. When I test my kids for perfect pitch, I would say that about 98% of my autistic kids are. So it just makes sense to sing and to use an instrument like the Clavinova that is always in perfect pitch, it never needs tuning because that can drive a kid bonkers.

d. What approach do you use when teaching steps and skips on the staff?

I'm a tactile teacher- I do a lot of tapping on top of their hands. I'll show them, "Here's a skip, here's a chord." By having that touch, it seems to help them remember better than just words or just sounds. I also play the intervals and say, "Here's a second- is that pretty? No, it's next door. Here's a third- is that pretty? Yes, it's a skip." I'll play it in the chorus sound on the keyboard so they can hear that. For a fourth, I loved it back in the 90's when I could teach the song from Lady and the Tramp, "We are Siamese." But these kids

don't know it so I had to give up on it.

The theory and technique books use ear-training as well, so I have them play it with the files and they can hear it. It makes it so much easier to create a smart musician than just somebody who's doing what the teacher tells them to do.

I will draw a line in the music that helps the eye that it's stepping down, and for a skip I'll do something different. A line above if it's going up, and a line under if it's going down. Just to help with visual understanding.

e. How do you introduce flats, sharps and accidentals?

Just that sharps go up and flats go down, and to listen- teach the kids to be good listeners, too. So I'll play a scale and see if they can figure out where the sharp or flat goes, or I'll transpose it. I have them memorize the pattern of half steps and whole steps so they can see the patterns and hear it.

f. How do you incorporate counting with music reading?

Probably fifteen years ago I changed my methodology, so I don't have kids count with the music at first, I have them feel. In school they learn "Ta, ta, ta, ta" and we go with that. I equate the heartbeat with a quarter note and say, "Just like your heartbeats, that's your tempo." I try to do that first of all, and I'll say things like "Half-note, or whole-note-hold-it." I find that if I stay away from numbering, your brain can only take so many numbers at one time. You've got these [finger numbers] going on, and that's enough. I'll have them listen and say, "Is it fast, medium, or slow walking tempo?" I don't get them "Andante" yet until they get a little further. It's just natural- it's not

Algebra, it's how we walk in rhythm.

It's tapping into a child's natural rhythm, so I don't put a lot of emphasis on counting at first but because they hear everything in the music, they just assume you're going to be in rhythm. Why would you not? That's the beauty of hearing things a lot and helping them naturally 'get' rhythm. Most of my students are really good at rhythm, and that was one of those things were I just turned it upside down to see if we could do it to make it work.

g. Do you use symbolic notations for counting?

I just use the standard rhythm notation.

h. Are there any games or activities that you have found successful in reinforcing counting?

I've got so many things I've done with group lessons, but sometimes simple is better. Especially if you only have a certain amount of time with a child and it can naturally be taught, you don't need to drag it out. Teach it more organically than with a lot of bells and whistles.

Just clapping or tapping a foot. If they're having a hard time getting a beat, we'll use the drums on the Clavinova instead of the piano sound to help them feel the beat. It all goes back to the music because a lot of these kids are only 30-minute lesson, and if I'm trying to pull in different tools, I think it's more distracting. My main focus is for them to sit on the bench and focus for 30-minutes, so by having all the tools built into the Clavinova, they're sitting here focusing.

i. What teaching techniques have you found successful in teaching music reading to students with ASD?

Charts with names of notes, F-A-C-E, All-Cows-Eat-Grass, just have those type of things available. We just kind of persevere, I don't really use a lot of other things. I want it to be all about what they hear, what it feels like, what does a low F feel like, where is Middle C, spatial intelligence. With some, it is easy, they love to excel at reading, and others it may never be something they do well at. But it doesn't mean they can't make music.

6. Accommodations and Vocabulary

a. What accommodations do you make for students with physical disabilities such as vision/hearing impairment, immobility, muscular coordination, etc.?

I've had a couple who were blind, and for them, hearing and playing is important. Showing them where to feel, playing what an octave sounds like, finding the F chord, and hearing the songs and sending them home with a way they can hear their songs.

I haven't had a deaf child in a while, but I have had several. There's also a comorbidity between deaf and blindness. I've also had a lot of ADD with deaf kids so many times. If you can get them playing complex rhythms, they do amazing at that. A lot of showing them what it feels like with their hand on top of mine. They may or may not look at the music, but even though they're deaf, the senses that are left are heightened, which is cool. I've only had partial deaf, but one was 50% in one year and totally deaf in the other, and he was an amazing jazz player. Don't assume you know anything. You're exploring a

unique person's abilities.

b. How do you communicate with non-verbal students or students with significant intellectual disabilities?

The best development in the past 10 years has been the iPad for non-verbal kids. I have worked now with several non-verbal students who bring in their iPad and use a talking app to communicate with me. In the last few years, the parents have received more technology training and help from schools on how to communicate with their child. They have certain apps that words and pictures, and you just have to touch it and they can either spell it out, like "I like piano." The kids who are non-verbal usually need a little help with finding the spatial distance between things, too, which translates to piano. They might need help finding things on piano, a kind of fragility there.

Sometimes if they spell out "I like piano," I'll say, "I'm glad you like piano! Let's try to say it together, look at me- I like piano." And they'll actually try to form the words. But they're trying. And that's the goal- looking them in the eye and having a conversation. That's where the music and stimulating the talk-centers come together. I've had kids who have finished even three months of lessons, and they're talking more and using more words. If you look at it more as a block that maybe you can melt a little bit, then it's good. I never that their child will become more verbal, but we just try it to see what happens. That's why it's important to help them be successful, even if it's just "Twinkle, Twinkle."

I sometimes have to remind parents who really want their child to play the piano that what we're doing here is adaptive piano. Their child can still play

the piano, but they might not play like you think they should or how you want them to. We will see how it goes, because it's a journey. I have to do a little counseling. I have one parent who will probably call three or four times this week asking, "When can my daughter play Fur Elise." I'll say, "Maybe never, but we can adapt Fur Elise for her to play." I always give hope. They're dying on the inside because this is their baby. This child may always have to have diapers or whatever, so you have to love them through it.

c. What are the most important aspects of communication with students with ASD/special needs?

Eye contact. When they come in, they want to throw their shoes down, or shove things off the piano, so I have to say, "No, you can't do that." I'll say, "We're in piano. Say hi, _____ [teacher name]." Student repeats, "Hi, ... [teacher name]." And we'll have a conversation and get right to the music. I'll gently say, "It's piano time. Hands here." It won't work if the parents expect me to magically be able to teach their children how to play piano. This is an adaptive approach to bring out the best potential and they have to understand that. I'll tell the parents the successes the children are having, and I'll never say, "They will never be able to play the piano like you want." I'll never give them that. It's just a journey.

d. What vocabulary do you use for counting to avoid number confusion with other numerical uses in music? (Measure numbers, finger numbers)

I will eventually use, "1, 2, 3, 4," but at first it's just "quarter-quarter,"

or “half-note” or “ta, ta” to get them to feel it and understand what it is they’re looking at. They need to hear it and feel it in the music, more hearing based first than explaining it first. They’ve been doing it all along, and now they know what it is.

e. What are your procedures for addressing behavioral problems in lessons?

I have one student, and immediately when he comes in I have to say, “Hi...[student name]! Shoes go over here.” Otherwise, he tosses his shoes over the staircase. I have to say, “Get your coat off, books ready, let’s go.” We don’t do the warm-fuzzy talk at first, I just immediately let him hear a song first. That immediately changes the atmosphere up. “Here’s your first song, and let’s listen to it first.” Get the music stimulating his brain first of all, and then go on from there.

It’s also important when you have a student who has triggers, to know the triggers and not go there. Know how far you can push before you need to back off. Once you make that mistake and you have one leave crying, you just have to develop a lot of tools to keep things positive and fun, or strict and fun, so know that. For students who are profoundly autistic, I always make sure there’s a parent, and especially boys above age 10. You don’t know, they don’t know. Even for girls. I had a girl who was 25 who tried to take her clothes off or hit you, and you have to be careful. We always just redirect them to the music.

For kids that have profound ticks or hit, you just always have to be aware. When they get to a certain point, I may have to tell the parents that I can’t

teach them right now. I'll give them some music to play or listen to, but just tell them I can't teach them right now. I have an 18 year-old who gets up after every song and grunts and high-fives his parents. I started saying, "Inside voice." So we'll see.

I had one situation where a new student came with his grandparents, and he was autistic and had been abused. After ten minutes, I knew it was not going to work. He had no trust, he was so prickly. So I emailed them and told them to do things that were non-threatening where he wouldn't have to be one-on-one with somebody right now, and listen to lots of music, anything to free him up from his anxiety.

You have to practice intuition, where you're very aware and you can tell when things will happen. You never want to be surprised. It's like that sixth sense or gut feeling when you can tell somebody's in trouble. We can all develop that, and I think we have it. I know as a parent I've just had this feeling, and as you do it more and rely on your gut, you realize what will work and follow that sense.

Do you have any other suggestions to offer piano instructors who are teaching music reading to students with ASD?

A balance between education and intuition. There's an inner-game to teaching autistic kids. I think you model it and remember that reading music is not just a literal, left-brain thing. If they struggle, I tell them to use their tools (lines and spaces). If we want kids to read music, no matter who they are, we just have to find the tools. I've tried all kinds of stuff, and I think it boil down to being simple. Use F-A-C-E and All-Cows,

point with them throughout the whole song, problem-solve to help them find things. No matter what it is, if you can get a child's brain to play and recognize the music, they'll be great sight-readers.

You just read, so you can pick up a piece of music and just like a magazine, read it. If you're a book reader, you'll read everything from cereal boxes to the back of milk cartons. Do the same thing with music- just be a reader. Read, read, read, all the time. It'll click.

RESPONDENT 4

The following are the complete interview responses by “Respondent 4.”

I. Background

a. What prompted you to begin teaching students with special needs?

As a young undergraduate music education student I had my first contact with elementary school students with special needs when I was participating in student teaching. This experience was prior to the implementation of legislation that required music education for students with disabilities, but my supervising teacher...was passionate about including students with special needs in her work in the schools. I quickly discovered that I also loved working with these students! When I discussed this with my supervising teacher, she suggested I might want to pursue music therapy for a master’s degree. I had never heard of music therapy, but I began to research the field and explore possible graduate programs.

Eventually I applied and was accepted at...[a university] to begin a Master’s level program in music therapy. This was the beginning of a career as a Board-Certified Music Therapist spanning over 45 years. In 1993 I returned to school...[at another university] to earn a Ph.D. in Counselor Education, which allowed me to combine my love of both counseling and music therapy, working first as a school counselor and then as a private practitioner of counseling and music therapy. As a component of my work with children with ASD, I have frequently included piano instruction and teaching music reading.

b. What process did you go through to begin teaching students with special needs?

In addition to an undergraduate degree in music education from the...[university] and a master's degree in music therapy from...[another university], I completed another master's degree in special education from the...[university] in order to work with children with special needs. My first position as a music therapist/educational therapist was in the early 70's working at ... a Psychoeducational Center. This Center was part of the...school system and provided services for children (ages 3-14) with severe behavioral disorders. This included children with Autism (now referred to as ASD). Through this innovative program children with special needs attended the Psychoeducational Center for a half-day and then returned to their regular home school for the remainder of the day.

c. Are there any resources that you found to be helpful when you started teaching?

I found very few materials that were totally appropriate for piano instruction with children with ASD. Consequently, I created my own materials in addition to using music education resources from many commercial sources. My method was to develop individual goals and objectives for each child and then to find or create materials to assist in meeting those goals.

d. What methods did you use for obtaining students?

In the early days of my career I found "word-of-mouth" and networking

to be very effective. At that time I also found professional newspaper advertising to be helpful. With the advent of the internet, maintaining a website became increasingly important. Since the beginning of my career I have belonged to professional associations, and I have discovered that many parents seeking music therapy for their children contact the American Music Therapy Association for names of practitioners in their city and state.

e. What interview or application process do you use for evaluating potential new students?

1. I meet in-person with parents of potential music therapy special needs' clients. In this meeting we discuss: (a) Background information regarding the child (developmental and medical history; school information; specific issues related to the child's special needs) (b) Child's perceived interest in music and responses to music (c) Child's functional levels in areas of social development, communication (receptive and expressive), behavior, and academics. At this initial meeting I also give the parents materials related to music therapy and talk with them about my music therapy program.

2. I meet in-person with the child and conduct an informal assessment in the areas of communication, socialization, behavior, cognition, and music interest/response

3. If it is determined that music therapy may be beneficial for the child, the parents and I develop an initial treatment plan for beginning services.

f. Could you describe the programs you currently offer for students with special needs and disabilities?

In private practice I provide individual music therapy sessions on a weekly basis (30-45 minutes). The piano and music reading are included in individual sessions if on initial assessment (or as the music therapy continues) it is determined that this component would be beneficial to the child. These private, individual sessions are primary, but I also offer a group music therapy session...once every two months. This group session is intergenerational and is held at the local public library. It is free and open to all children with special needs, whether or not I work with them. ...[The group music therapy session] offers the children I see individually to have the opportunity to participate with others and also demonstrate what they are doing in their individual sessions.

g. Do you offer private or group lessons?

(Please see letter "f" above)

h. How do you structure your lessons?

The format and content of music therapy sessions are determined by the goals and objectives specified for each child. Most lessons/sessions will include some or all of the following:

- (1) Hello song/greeting*
- (2) Rhythms, movement and rhythm Instruments*
- (3) Songs (piano and/or vocal) with possible visual cues*
- (4) Instruction and/or improvisation on piano*

(5) Brief segment including parent, caregiver, sibling(s)

(6) Good-bye song/closing

i. What types of routines or schedules do you use with students in lessons?

I always use a routine/schedule that includes a structured beginning (Hello song/greeting) and structured end (Good-bye song/closing). Please see letter "h" above for some of the specific experiences that are also included in the session based on the assessed goals and objectives for each child.

j. How do you require your students to practice?

I do not require practice, but I do encourage children who demonstrate good music potential (piano, voice, drum, etc.) to practice daily. With the parents' assistance and cooperation, I provide practice charts and use stickers to reinforce practice time. I have found many children with ASD respond positively to these charts.

k. Do you assign specific practice methods or times?

I do not usually assign specific practice methods or times for children with ASD unless they are high-functioning and highly motivated to practice.

2. Student Population

a. What ages of students do you teach?

I work with students with special needs, ages three-21.

b. How many students with special needs do you currently teach?

As a music therapist in private practice I work with 22 students with special needs.

c. What special needs do they have?

The special needs include: Autism Spectrum Disorder, Specific Learning Disorders, Emotional/Behavioral Disorders.

d. Do you solely teach students with ASD or do you teach students with other special needs?

As a music therapist I work with students with a variety of special needs (see letter "C" above), but the primary focus is students with ASD.

e. How many students specifically with ASD do you teach?

I provide music therapy weekly for approximately 15 students with ADS. Over the years I have worked with a total of over 100 children with ASD.

f. What other comorbid symptoms do your students with ASD present?

Some of the comorbid symptoms include: attention deficit, emotional/behavioral problems, speech and communication difficulties, learning issues, health challenges, anxiety disorders NOTE: Not all of these comorbid symptoms are seen in all of my client population. With many of the children only several (or even none) of these symptoms are present.

g. What are the gender percentages of students with ASD in your studio?

The majority of my clients with ASD are male (approximately 75%).

h. How many of your students do you consider to be high, middle and low on the spectrum?

My answer to this question is rather complicated in terms of high, middle, and low. In the DSM-5 (2013, p. 52), severity levels for ASD are specified as Level 1, Requiring Support, Level 2, Requiring Substantial Support, and Level 3, Requiring Very Substantial Support. For each individual the severity level is specified for two criteria: Criteria A, Social Communication and Criteria B, Restricted, Repetitive Behaviors.

For example, some of my clients are Level 2 for both of the two criteria, several are Level 1 for both Criteria A and B, and several are Level 3 for both Criteria A and B. Others, however, are not on the same level for both Criteria A and B. For example, a child may be Level 1 for Criteria A and Level 2 or 3 for

Criteria B.

3. Curriculum

a. For the purpose of this study, I am defining music reading as: the ability to identify notes, find them on a keyboard, actualize and play them with rhythmic accuracy. Do you use a print method series for teaching music reading?

Yes, I frequently use a print method series (along with my own method materials) to help in teaching music reading to students with ASD.

b. If so, what method do you use?

The print method I use the most is the Music for Little Mozart's Series (Authors: Barden, Kowalchuk, Lancaster; Publisher: Alfred Music - 1998). I typically use the lesson books, but sometimes include other materials from the series, such as workbooks, recital books, flashcards, and Little Mozart Plush Figures. One important caveat: I almost never use the stories from the series that are included with the pieces. The pictures are wonderful and engaging, but the stories are usually too abstract and involved for most children with ASD.

c. Do you create your own resources for use in lessons?

Yes.

d. If so, please describe the materials you have created.

I have developed a method for piano instruction for children with ASD (The working title: Piano Pizza: Teaching Piano to Children with Autism Spectrum Disorder). This method includes:

- (1) a series of beginning piano pieces, each with words/pictures related to pizza*
- (2) a series of pictures with rhythm patterns in which each picture (8 ½ x 11) depicts a piece of pizza, e.g., cheese pizza, pepperoni pizza, hamburger pizza, etc. Each pizza picture includes a rhythm, e.g., cheese pizza: half note followed by two quarter notes*
- (3) a series of simplified worksheets for note recognition and rhythm patterns. I have found that almost all commercial worksheets move too fast and do not include enough repetition for most children with ASD.*

e. Do you use any other supplementary materials in lessons?

Yes, I frequently incorporate the use of rhythm instruments, large drums such as snare drum and bass drum to enhance music reading (notes and/or rhythms). Many of the children enjoy the plush toy figures that are part of the Music for Little Mozarts Series.

f. Do you utilize technology in lessons?

Yes.

g. If so, what types of technology?

I make use of computer timers/apps with unusual sounds and alarms for motivation during lessons. For example, "How many notes can you identify and play before the alarm sounds?" I sometimes video tape a student playing a favorite piece (solo or duet with me). Then we play back the video and clap for ourselves!

4. Pedagogical Process

a. How do you introduce a new piece to a student?

I point to the picture on the page, say the title, and then play the piece for the child. Depending on the cognitive and communication level of the student, I ask simple questions about the piece that are appropriate for the child's level and give lots of praise for responses (verbal or nonverbal). I play the song again and encourage the child to clap, play a rhythm instrument, move with the music or sing (words or nonsense syllables).

b. How do you determine the best approach for teaching music reading to each student?

For children with ASD, I use the strengths of the child in determining the most effective strategy for teaching music reading. I consider a child's cognitive level, communication level and motivation. I then move forward based on the child's responses. In music therapy, music reading is not established as a goal for every child. Sometimes improvisation on the piano for nonverbal communication

may be just as important or more important than reading music.

c. How do you help students navigate music reading in elementary and intermediate literature?

*I continue to use the strengths of the child as described above in letter "b."
I carefully observe and monitor the child in determining the speed at which new literature is introduced.*

d. What teaching techniques have you found successful in helping students navigate advanced literature?

Collaboration with other professionals. When music therapy students are able to move into advanced literature and have the required discipline, motivation, and potential, I refer them to...[a piano professor] at the...[university] who will be able to help them take the next step to maximize their potential in piano performance.

5. Music Reading

a. How do you introduce and correlate keyboard letter names to notes on a staff?

I use the following order in introducing the keyboard and then the notes of the staff that correspond to the keys on the keyboard. This process is broken down into manageable chunks depending on each child and may take anywhere from days to weeks, months or even years for full or partial mastery.

- (1) Students learn to recognize and play all of the two black keys and three black keys. "Play all the two black keys." "Play all the three black keys."*
- (2) Students learn the names of the keys on the keyboard based on their relationship to the two and three black keys. "Play all the C's" "Play all the E's" "Play all the ____" etc.*
- (3) Teacher plays various keys on the keyboard and asks the name of each.*
- (4) Teacher introduces the notes on the staff one at a time and helps the child to match the note with the key on the keyboard.*
- (5) Teacher provides numerous opportunities for review and practice in matching notes on the staff to keys on the keyboard.*

b. Do you use mnemonic devices when teaching staff reading?

For students of all ages who can read words, I have found nothing better than the "old school" mnemonic device: Every Good Boy Does Fine, FACE, Good Boys Do Fine Always, All Cows Eat Grass. Many children with ASD seem to "catch on" very quickly to this device, as long as they are very secure in identification of keys on the keyboard. On the other hand, I have had quite a few students with ASD who can quickly learn to recognize notes on the staff and match them to keys on the keyboard without using any obvious memory device.

c. Are there any games or activities that you have found successful in reinforcing note names on the staff?

Many children with ASD seem to gravitate to games and activities that are fun and challenging.

(1) Homemade note speller worksheets (with just a few items on each page) seem to appeal to many students' sense of order and structure.

(2) This is a game to be used with a timer (with an unusual sound/alarm): "How many notes on the staff can you correctly play on the keyboard in 1 minute? 2 minutes? 3 minutes?" "Can you beat your score this time?"

d. What approach do you use when teaching steps and skips on the staff?

In the approach I use, the first step is to be certain the child can identify spaces and lines when looking at the staff. Of course, this is introduced when the child is beginning to learn to identify notes on the staff. The next step is to learn to see the difference in a skip (line to line or space to space) and a step (line to space or space to line) and also to hear the difference in a skip and a step. Again, I often use homemade worksheets with just a few items on each page in which the student can identify skips and steps and play them as they are able. I also make a game of closing eyes and identifying steps and skips.

e. How do you introduce flats, sharps and accidentals?

After a student can with 100 % mastery identify all of the keys on the keyboard and match at least 2 or 3 notes on the treble staff with notes on the keyboard, I introduce sharps and flats. I introduce the names of the black keys in the group of two black keys i.e. C#, D#, Db, Eb and then include these keys as

explained in letter "5a" above, e.g. "Play all the C#'s." After the student masters this task, I introduce the sharp and flat signs on the staff (as explained in letter "5.a." above.)

f. How do you incorporate counting with music reading?

I begin teaching counting early in the music therapy process before, or simultaneously and independently of when the student is first learning the names of the keys on the keyboard. In my approach I introduce the basic rhythm patterns with Pizza Picture cards as explained above in letter "3.d." For example, a picture of a pizza (without any toppings) is paired with a picture of two quarter notes: Piz-za. The child learns to clap two quarter notes and say in rhythm: "Piz-za." Then other rhythm patterns are gradually introduced, e.g. "Cheese Pizza" (half note, quarter note, quarter note). After the student is very familiar with all of the "Pizza Rhythms," and can clap or play them on a rhythm instrument, I pair the "pizza words" with names of the notes, e.g. "Cheese Pizza" becomes "Half Note, Quarter, Quarter" chanted or played in rhythm by introducing basic rhythm patterns with Pizza Picture cards as explained above in letter "3.d."

g. Do you use symbolic notations for counting?

After the process described above in letter "5.f" is mastered, I begin to incorporate numbers moving gradually to traditional counting using numerical notation, e.g. "Half Note, Quarter, Quarter" becomes "1-2-3-4."

h. Are there any games or activities that you have found successful in reinforcing counting?

I have found that children with ASD frequently respond well to the “Pizza Cards” I use to introduce and reinforce counting. I use lots of repetition with this activity. Students learn to play drums and other rhythm instruments using the “Piano Pizza” method. As they learn a new rhythm I add the new pizza card to ones they already know creating a longer rhythmic sequence. This appears to be reinforcing and fun! I use another learning activity in which I place several pizza cards on the floor or a table. I play a rhythm pattern and they retrieve the card that corresponds. In our...[group music therapy session] (as described above in letter “1f,” the children, along with parents, caregivers and siblings, participate in games and activities using my “Piano Pizza” method.

i. What teaching techniques have you found successful in teaching music reading to students with ASD?

In addition to the specific procedures described in the sections above, there are overall general teaching techniques that I use:

(1) Move at the child’s pace but always be thinking about the next step and how that will be introduced.

(2) Be flexible. Children with ASD may have some similarities, but each student is unique and requires an individualized approach.

(3) Most children with ASD respond well to order and structure. Provide a routine within the session, but be open to changing that as necessary. As a general rule of thumb, I have found that children who are higher functioning in

the areas of cognition and behavior may not require as much structure and routine and may even resist routine as they become "bored." Depending on the strengths and needs of the individual child, balance order and structure with challenge and creativity.

(4) As a teacher, look for even small changes in the student and use scaffolding to help the child move to the next level. Observable change may take days, weeks, months, or even years.

(5) Be aware of normal developmental changes in children and incorporate these changes into working with the child.

(6) Use solid evidence-based techniques for dealing with behavior that interferes with teaching music reading to the child.

6. Accommodations and Vocabulary

a. What accommodations do you make for students with physical disabilities such as vision/hearing impairment, immobility, muscular coordination, etc.?

When I am working with a child with a physical disability, I become as familiar as possible with the disability and how it manifests with that child (talk with parents, consult with professionals who see the child, etc.). I make accommodations as necessary, e.g. modify the way an instrument is played, create alternative ways for the child to respond, such as pointing to pictures, nonverbal

“nods,” modifications in the music therapy room with special seating and room arrangement.

b. How do you communicate with non-verbal students or students with significant intellectual disabilities?

When I am working with a child who is non-verbal or has significant intellectual disabilities, I first observe and learn how other individuals communicate with that child (talk with parents, consult with professionals who see the child, etc.). I begin with using the methods that have been shown to be successful with that child and use those approaches as much as possible, e.g. simple signing, gestures, pictures, communication boards, etc. In addition, the music itself provides a fabulous tool for communication that bypasses the use of traditional verbal language. Thus, music improvisation becomes a major tool for communication.

c. What are the most important aspects of communication with students with ASD/special needs?

I consider the most important aspects of communication with these students to be for the teacher to have an excellent grasp of a child’s receptive and expressive levels and forms of communication, and for students to learn to use gestures/alternative forms of non-verbal communication and/or words to express basic needs, to learn to use gestures/alternative forms of non-verbal communication and/or words to interact with others and build relationships, and

to learn to use gestures/alternative forms of non-verbal communication and/or words in order to develop to their full potential.

d. What vocabulary do you use for counting to avoid number confusion with other numerical uses in music? (Measure numbers, finger numbers)

As explained above in letter "5.g." I very gradually introduce numbers for counting, so some students with ASD do not always reach the level where numbers are introduced. In the approach I use I consider numbers for counting to have priority over measure numbers or numbers in time signatures. Depending on the individual child, I attempt to begin introducing finger numbers as soon as the student begins to recognize and play notes on the staff (as described in letter "5.a." above.) That may happen before, after, or at the same time as numbers are introduced for counting. My experience has been that by the time students recognize and play notes on the staff, they typically do not confuse finger numbers and counting the rhythm.

f. What are your procedures for addressing behavioral problems in lessons?

As a music therapist I am trained to look for the underlying cause or trigger for the behavior: Stress? Anxiety? Anger? Frustration? Boredom? Another diagnosis such as ADHD? Recent trauma or change in the home or school environment? Medication? Developmental change? When determining the trigger or possible underlying cause (through observation, talking with parents,

teachers, other professionals as appropriate), it is extremely important to determine if the behavior is happening just in the lesson or in other situations, e.g. home, school, social events, etc. This information can provide important clues about the origin of the behavior as well as information about the level and intensity of the behavior. After determining the trigger/cause of the problem behavior and how much it is impacting the child and in which situations, I develop a behavior plan for that student which I share with the parent or caregiver and with other teachers and professionals as permitted by the parents. As the plan is implemented, I carefully observe and document the results. If it is successful we move forward, but if it is not helpful I make changes (sometimes trial and error) until we discover the best approach to address the problem. Behavior plans may include some of the following: Use of primary reinforcement, behavior charts used in combination with reinforcement at home and in the session, changes in a teaching technique, reduced time in the lesson/session, adding more structure to the session/lesson, reducing the structure in the session/lesson, revert to earlier lesson content and or format that was successful, change the pace of the lesson/session, change the materials used in the lesson/session.

Do you have any other suggestions to offer piano instructors who are teaching music reading to students with ASD?

(1) Remember that each child with ASD, just as with a typically developing child, is an individual and has a unique style of learning. "Breaking the code" for a student's style of learning may be more difficult with children with ASD, but the instructor's patience and observation skills with the child will usually pay off.

(2) Look for the small changes in the child with ASD. Sometimes these children exhibit large gaps and growth patterns in one or more specific area (language, social/emotional development, social development, cognitive development). This knowledge can be vital in assisting the child to progress in music reading.

(3) Growth in music reading in the child with ASD can take days, weeks, months, or years. Be prepared, however, to be surprised, because children with ASD sometimes make huge leaps from day to day.

(4) Collaborate with other teachers and professionals who work with children with special needs. You don't have to have all the answers. Know your own strengths and limitations. Collaboration is often the key to tremendous growth for both for the teacher and the child with ASD!

RESPONDENT 5

The following are the complete interview responses by “Respondent 5.”

1. Background

a. What prompted you to begin teaching students with special needs?

There were some students with Autism in a group piano class that my pedagogy graduate students were teaching, and those students' parents contacted me after the class about teaching them privately. I started doing that and word spread amongst parents of students with Autism, so it was basically by accident.

b. What process did you go through to begin teaching students with special needs?

The first that I did was that I just started teaching them. I treated these students just like any other student in my studio, in terms of being an individual with specific needs in their learning journey, and so I tried to meet them where they were. While teaching these students, I would come across particular challenges that they would have; the challenge that seemed to be prevalent was a difficulty reading musical notation. When those specific challenges would come up, I would research as much literature as was available about these issues.

c. Are there any resources that you found to be helpful when you started teaching?

The particular books I found to be great resources were Alice Hammel's two books on teaching music to students with special needs. Those are books I always recommend to people when they ask this question.

d. What methods did you use for obtaining students?

No method- I did not purposefully set out to recruit students with special needs.

e. What interview or application process do you use for evaluating potential new students?

I do a preview lesson and interview of parents, and it is the same interview process that I use with any student.

f. Could you describe the programs you currently offer for students with special needs and disabilities?

I offer private piano instruction and the other program that we offer at...[the university] is our summer festival...which is a week-long piano festival for students with Autism Spectrum Disorder.

g. Do you offer private or group lessons?

I offer both. For students who are studying with me as one of my piano students I offer private lessons. All of the teaching that is done at...[the festival] is done in a group setting.

h. How do you structure your lessons?

I structure my lessons in terms of long-term goals, maybe 4-month goals and week to week goals. I'm always starting out a lesson by reviewing concepts from the previous week, practicing with the student on sort of things that are difficulties, and then helping those students as they leave the lesson begin to practice the new elements for the next week.

i. What types of routines or schedules do you use with students in lessons?

It's the same things I use with any students, I just use an old-fashioned notebook-based assignment book. I look at that assignment book with the student and talk about the previous weeks' assignments and go through the previous weeks' assignments and then write new assignments for the student while talking to them about the assignments in the course of the lesson. In terms of schedules, I just am a stickler for having the student having a lesson at the same time every week. With my students with special needs and with all my students, I have what I guess I would call a "no makeup policy," just meaning that I'm happy to try to reschedule someone's lesson within that week if they contact me within a reasonable amount of time, and I just kind of think that that kind of consistency is particularly important for students with ASD.

j. How do you require your students to practice?

My students have to practice a prescribed amount of time every day. If

they are younger, they need to practice with parental supervision.

k. Do you assign specific practice methods or times?

Yes, I do. In the lesson notebook, that's one of the things that I write very specifically is how a student should practice. I will say something like, "Measures 1-10, left hand alone, 3 times in a row with no mistakes." So I do give very specific ways to practice.

2. Student Population

a. What ages of students do you teach?

I teach between the ages of 8 and 55.

b. How many students with special needs do you currently teach?

I currently teach three.

c. What special needs do they have?

They all have ASD.

d. Do you solely teach students with ASD or do you teach students with other special needs?

I currently only teach students with ASD, but I have taught students with other special needs.

e. How many students specifically with ASD do you teach?

Three, and at our summer festival we teach between five and eight each summer.

f. What other comorbid symptoms do your students with ASD present?

One of the students also has Tourette Syndrome and another student is blind.

g. What are the gender percentages of students with ASD in your studio?

All three students are male.

h. How many of your students do you consider to be high, middle and low on the spectrum?

One is high, one is middle, and one is low.

3. Curriculum

a. For the purpose of this study, I am defining music reading as: the ability to identify notes, find them on a keyboard, actualize and play them with rhythmic accuracy. Do you use a print method series for teaching music reading?

I don't.

b. If so, what method do you use?

[Does not apply]

c. Do you create your own resources for use in lessons?

Yes, if using standard piano teaching literature is creating my own resources.

d. If so, please describe the materials you have created.

I think that all three of these current students have worked through all of the Anna Magdalena Bach Notebook, as well as Burgmüller Opus 100. The other thing that I've done with all three of these students with ASD is simple improvisations, and those are things based on parameters I create for them on the spot in the lesson.

e. Do you use any other supplementary materials in lessons?

No.

f. Do you utilize technology in lessons?

No.

g. If so, what types of technology?

[Does not apply]

4. Pedagogical Process

a. How do you introduce a new piece to a student?

I always perform the new piece for the student.

b. How do you determine the best approach for teaching music reading to each student?

By having them sight-read a new piece of music.

c. How do you help students navigate music reading in elementary and intermediate literature?

I always have the student read through pieces in their entirety for me as soon as they get it in the lesson. I try to encourage good sight-reading tactics, give them some tools for more quickly and more accurately reading, so I guess it would be called 'guided sight-reading' in the lesson.

d. What teaching techniques have you found successful in helping students navigate advanced literature?

I think one of the techniques I have found helpful is working on advanced literature in group lessons in the morning and pairing them up with up with a graduate student mentor who takes notes on how we are working on those pieces and then practice with the student later in the afternoon. The mentor then becomes a practicing tutor.

5. Music Reading

- a. **How do you introduce and correlate keyboard letter names to notes on a staff?**

I don't have a specific tactic but simply reading a lot of music with the student and using landmark notes on the staff and on the keyboard.

- b. **Do you use mnemonic devices when teaching staff reading?**

No.

- c. **Are there any games or activities that you have found successful in reinforcing note names on the staff?**

No. Other than just good, old-fashioned sight-reading, I don't really use any specific games.

- d. **What approach do you use when teaching steps and skips on the staff?**

Just sort of visual identification of moving from a line and a space or a line and a line.

- e. **How do you introduce flats, sharps and accidentals?**

I like to introduce those things right at the beginning, actually. As soon as a student is reading music on a staff, introducing those concepts right at the beginning so that it's not sort of some strange things that happens later on that might be perceived as difficult.

f. How do you incorporate counting with music reading?

By having the student count out loud.

g. Do you use symbolic notations for counting?

No.

h. Are there any games or activities that you have found successful in reinforcing counting?

Counting out loud as well as counting and singing the piece away from the piano while moving around the teaching space.

i. What teaching techniques have you found successful in teaching music reading to students with ASD?

I guess one of the things I would say to that is having students read one hand at a time. I find it tends to help sort of break down what tends to be a particularly challenging element into what can be something a little more manageable.

6. Accommodations and Vocabulary

a. What accommodations do you make for students with physical disabilities such as vision/hearing impairment, immobility, muscular coordination, etc.?

I guess I don't make that many accommodations. I guess it's just been my experience that, for example, the students that I have with vision loss are tremendously capable about getting around on their own with a cane. One

accommodation I guess I've made is for example, I've had a graduate student with high-functioning Autism who is also blind, and so I work with our disability office on campus to make sure that all of the readings for the class are translated into Braille for her well ahead of time.

b. How do you communicate with non-verbal students or students with significant intellectual disabilities?

I think that one thing that I try to do is be playful with students like that. I find that in a way that matching their mode of communication can be helpful. So I'm thinking about a student I have that doesn't give sort of intelligible answers to my questions. I will still ask those questions, and if they give an answer that's sort of not really connected to what we're talking about, then we'll talk about what they're talking about.

c. What are the most important aspects of communication with students with ASD/special needs?

I think that the main thing I would say there is communicating with these people as if they have great intellectual capacities, because they do, despite the fact that it might not seem like they do. As much as possible not speaking to people with special needs as if they need to be spoken to in a remedial way, but speaking to them in a very normal way.

d. What vocabulary do you use for counting to avoid number confusion with other numerical uses in music? (Measure numbers, finger numbers)

I find that this is a difficulty with students with special needs as well as students without special needs, so one thing that I just do with students is using unit counting vs. measure counting. So always calling a quarter note "1" vs. "1, 2, 3, 4" if there were four of them in a measure.

e. What are your procedures for addressing behavioral problems in lessons?

I have to admit, I haven't really had a lot of behavioral problems. I think the one behavioral problem that I have had to address was a student at the...[festival] who had kind of a habit of always correcting mistakes that other students would make in their performances. So if a student would miss a note in their left hand by a half step, he would kind of announce it to the class and say, "That's a G in your left hand and not a G-sharp." So when those things happen I just simply address it. I will just simply talk to that student about how that's not appropriate behavior, and he should not do that anymore. So never ignoring it and always addressing it head on.

Do you have any other suggestions to offer piano instructors who are teaching music reading to students with ASD?

I think the things that I believe in really deeply about this are always finding some way in to reaching your student. I think that a lot of people struggle with music reading, and there's other ways to learn music. You can learn music by ear, you can learn music by imitating your teacher phrase by phrase, there's lot of way into learning how music goes. Always keeping the music and the student's love for music at the heart of what

you're trying to do, and if that means alternative ways to teach them music, then that's fine.

RESPONDENT 6

The following are the complete interview responses by “Respondent 6.”

1. Background

- a. **What prompted you to begin teaching students with special needs?**

A family of a girl with Down Syndrome contacted me. They had tried 80 teachers, and no one would take their child.

- b. **What process did you go through to begin teaching students with special needs?**

I did a lot of trial and error. I also met with speech therapists, occupational therapists, and special education teachers to give me ideas. There were NO sources available in piano pedagogy world.

- c. **Are there any resources that you found to be helpful when you started teaching?**

No.

- d. **What methods did you use for obtaining students?**

I individually created all of my materials

- e. **What interview or application process do you use for evaluating potential new students?**

Children needed to know how to count to five, know their colors, and

that was it.

- f. Could you describe the programs you currently offer for students with special needs and disabilities?**

I am the founder and director of ...a music program for children with developmental and physical disabilities. Our program includes a chimes program and private piano program. We would like to add a choir and percussion program.

- g. Do you offer private or group lessons?**

Both.

- h. How do you structure your lessons?**

I use a schedule for the 30-minute lesson. Lessons are also individualized around the needs of the student.

- i. What types of routines or schedules do you use with students in lessons?**

I have both typed words, braille words, and board maker schedules.

- j. How do you require your students to practice?**

I ask for three days a week because my students are in many different therapies.

k. Do you assign specific practice methods or times?

No.

2. Student Population

a. What ages of students do you teach?

4.5-53 years old

b. How many students with special needs do you currently teach?

45.

c. What special needs do they have?

Down syndrome, ASD, dyslexia, Fragile X, cognitive delay, physical impairments, vision impairment (blind), speech impairment, ADHD, health impairments, auditory processing, dyscalculia, dysgraphia, dyspraxia.

d. Do you solely teach students with ASD or do you teach students with other special needs?

See above.

e. How many students specifically with ASD do you teach?

25.

f. What other comorbid symptoms do your students with ASD present?

ADHD, dyslexia, speech impairment, blind, cognitive delay.

- g. What are the gender percentages of students with ASD in your studio?**

75% male.

- h. How many of your students do you consider to be high, middle and low on the spectrum?**

I don't ask those questions of families.

3. Curriculum

- a. For the purpose of this study, I am defining music reading as: the ability to identify notes, find them on a keyboard, actualize and play them with rhythmic accuracy. Do you use a print method series for teaching music reading?**

Yes.

- b. If so, what method do you use?**

My method is picked based on the reading ability of the child in school. I prefer to start with Alfred "Music for Little Mozarts." I also use Faber "Piano Adventures."

- c. Do you create your own resources for use in lessons?**

Yes.

d. If so, please describe the materials you have created.

Color-coded music, transcribed music to easier versions, schedules, games for note reading and rhythm.

e. Do you use any other supplementary materials in lessons?

Flashcards, iPads, video recording, sticker charts.

f. Do you utilize technology in lessons?

Yes.

g. If so, what types of technology?

See above.

4. Pedagogical Process

a. How do you introduce a new piece to a student?

Each way of introducing is based on the individual needs of the child.

b. How do you determine the best approach for teaching music reading to each student?

By getting to know the student and building trust.

c. How do you help students navigate music reading in elementary and intermediate literature?

Sometimes I color-code, sometimes I use flashcards and games on

iPAD, other times, students come in and have already figured out staff reading and I have no clue how he/she did it.

- d. What teaching techniques have you found successful in helping students navigate advanced literature?**

Recording videos of playing.

5. Music Reading

- a. How do you introduce and correlate keyboard letter names to notes on a staff?**

I use a sight word approach similar to how school reading is taught.

- b. Do you use mnemonic devices when teaching staff reading?**

Sometimes. It depends on the student

- c. Are there any games or activities that you have found successful in reinforcing note names on the staff?**

There is an app that is a horse race on the iPad. I can control how many notes, clef, and where on the staff.

- d. What approach do you use when teaching steps and skips on the staff?**

For many of my students, it is very abstract. Sometimes we do not even discuss it. It is the problem of literal language.

e. How do you introduce flats, sharps and accidentals?

Slowly and very carefully.

f. How do you incorporate counting with music reading?

We do a lot of rote teaching.

g. Do you use symbolic notations for counting?

I like the Kodaly 'ta' and 'ti-ti' system.

h. Are there any games or activities that you have found successful in reinforcing counting?

Drums and rhythm sticks. Book Winning Rhythms.

i. What teaching techniques have you found successful in teaching music reading to students with ASD?

The ones listed above work well. Again, the teacher needs to get to know the student and build trust.

6. Accommodations and Vocabulary

a. What accommodations do you make for students with physical disabilities such as vision/hearing impairment, immobility, muscular coordination, etc.?

My studio does not change in the physical set up. We have a space clear for walking, and I also walk alongside the student if they are moving.

- b. How do you communicate with non-verbal students or students with significant intellectual disabilities?**

Board maker and various communication devices that the child has.

- c. What are the most important aspects of communication with students with ASD/special needs?**

Being very deliberate in what I say. Say what I mean and mean what I say.

- d. What vocabulary do you use for counting to avoid number confusion with other numerical uses in music? (Measure numbers, finger numbers)**

I never use numbers in counting or divide beats. Most students get too confused. I sometimes tap the rhythm on a shoulder so a student feels it or I tap it on the piano. I often record them on an iPhone or iPad.

- e. What are your procedures for addressing behavioral problems in lessons?**

I use a stop light that is similar to behavior programs in school. Everyone starts the lesson on green. If I have to give a warning, I will then move to yellow. If you get to red, I talk with mom and dad. Students usually have a consequence that is picked by the parent.

Do you have any other suggestions to offer piano instructors who are teaching music reading to students with ASD?

Be patient with yourself. You will make mistakes. Use parents as a tool and resource for you. They know their child!

CHAPTER 4

SUMMARY AND CONCLUSION

The document comprises four chapters, a bibliography and appendices. Chapter one consists of the introduction, purpose and need for the study, limitations of the study, survey of literature, and design and procedures. Chapter two provides the methodology of the study. Chapter three includes transcripts of interviews with leading piano pedagogues and music therapists regarding procedures for teaching music reading to students with autism. Chapter four serves as a summary and conclusion for the study and provides recommendations for future research.

The purpose of the study was to collect information about teaching music reading to piano students with ASD and to determine best practices that may be implemented into existing curricula. The study involved interviewing six professionals who are nationally recognized for successfully teaching piano to students with ASD and to learn their procedures for teaching music reading to this population.

The interviews collected information concerning the backgrounds of the individuals being interviewed, the demographic backgrounds of students being taught, and the pedagogical process, instructional materials and technology used for teaching music reading in lessons. While there are a growing number of publications and online resources for music and special education and music pedagogy for students with autism spectrum disorder, there are no comprehensive resources for piano instructors regarding teaching music reading to students with ASD.

Following the completion of the interviews, the researcher analyzed the interview responses to compile the data to determine and summarize the best practices in teaching music reading to piano students with ASD. The summary of the study identifies the purpose of each section in the interview, the intended implication of each question, the number of responses received for each question, and a concluding summary of each question and section to identify the best teaching practices. For the sake of determining the best teaching practices, a truncated summary of each interview response is included below each question in italics. The interview transcripts appear in their entirety in Chapter 3.

Each of the respondents were assigned a title of “Respondent ___ (number)” at random to ensure privacy and anonymity. The names of the following individuals and affiliated programs were redacted from the interview responses to ensure anonymity:

Dr. Jennifer Band

- *Board-Certified Music Therapist; Licensed Professional Counselor*

Dr. Beth Bauer

- *Guest Lecturer in Pedagogy; Internship Coordinator, Wheaton College Conservatory of Music Piano Instructor, Wheaton College Community School for the Arts*
- *Founder of Beethoven's Buddies*

Dr. Melissa Martiros

- *Assistant Professor of Music, Anna Maria College*
- *Founder and Director, OpporTUNEity Music Connections*

Dr. Derek Polischuk

- *Associate Professor of Piano; Director of Piano Pedagogy, Michigan State University College of Music*
- *Founder and Director of Celebrating the Spectrum*

Dr. Scott Price

- *Professor of Piano and Piano Pedagogy; Coordinator of Piano Pedagogy, University of South Carolina*
- *Founder and Creator of the Carolina LifeSong Initiative*

Ms. Connie Wible

- *Owner of Musical Mind Piano Studio and Store*
- *Founder of Mercer Island Music Technology Camp*

SUMMARY OF TRANSCRIPT INTERVIEWS

Section one of the interview consisted of 11 questions concerning the teaching background of the individuals and information regarding the music programs they offer.

1. Background

Question A was designed to determine the respondents' motivation for teaching students with special needs. All six of the interviewees responded.

a. What prompted you to begin teaching students with special needs?

Respondent 1 was referred by an individual in the community to a family who had a child with special needs.

Respondent 2 discovered a lack of resources to assist with teaching students with special needs and chose to pursue this area.

Respondent 3 became interested in teaching music and piano to students with special needs due to having children with special needs and began teaching students with ADD and ASD.

Respondent 4 showed a growing interest in teaching music to students with special needs

Respondent 5 was approached by parents of group piano students who wanted their children with Autism to take private piano lessons.

Respondent 6 was contacted by a family with a special needs child who wanted to study piano and had been unable to find a teacher.

In response to this question, interviewees reported a lack of available resources on teaching piano to students with special needs. Inquiries from both community networks and families revealed an interest in music programs for individuals with special needs and in the growing field of special education research.

Question B was designed to determine the process the respondents followed to begin teaching piano to students with special needs. All six of the interviewees responded.

b. What process did you go through to begin teaching students with special needs?

Respondent 1 initiated a process of observation and qualitative reflection to help modify and create teaching techniques, as well as started to read books on Autism and talk with parents to learn about the students.

Respondent 2 pursued further education in the field of special education which led to teaching music and piano to students with special needs and Autism.

Respondent 3 pursued further education in music therapy and music technology and began researching ways to adapt piano for learners with different needs.

Respondent 4 pursued further education in the field of music therapy and special education and began working with students with Autism and severe behavioral disorders.

Respondent 5 taught and treated them like the other students in the piano studio and did research on challenges that were noticed while teaching them.

Respondent 6 indicated that there were no piano pedagogy sources available on this topic, and the process consisted of trial and error and consults with therapists and special education teachers

The responses to this question indicate that the individuals did personal research, utilized parents and other professionals as resources, and pursued additional education to become better equipped to teach students with special needs.

Question C was designed to learn what resources the respondents found to be helpful when they began teaching piano to students with special needs. All six of the interviewees responded.

c. Are there any resources that you found to be helpful when you started teaching?

Respondent 1 reported that there were no resources on this area at the time; read textbooks on Autism and utilized parents as a key resource.

Respondent 2 stated that the lack of resources in this area is what prompted a career in teaching students with special needs, and that previous studies in special education proved a valuable resource in translating the material to the field of piano pedagogy.

Respondent 3 stated that there was a profound lack of resources available.

Respondent 4 stated that there were few resources available which required creating materials to assist in meeting the individual needs and goals for each child.

Respondent 5 read and recommends Alice Hammel's books on teaching music to students with special needs as resources.

Respondent 6 found no resources on this specific area and created all the materials used in lessons.

In response to this question, all interviewees communicated that there were few or no resources available specific to special needs piano pedagogy, which required them to do extensive research and create their own resources and

materials.

Question D was designed to determine what methods were used to obtain piano students with special needs. All six of the interviewees responded.

d. What methods did you use for obtaining students?

Respondent 1 indicated networking in the community and referrals from individuals in the area.

Respondent 2 indicated networking in the special education community of teachers and parents and the use of some social media.

Respondent 3 indicated receiving students from community networking and Autism groups and accepting students who were dismissed from other teachers' studios due to hyperactivity.

Respondent 4 utilized a website, community networking, and association with professional music therapy organizations.

Respondent 5 did not purposefully set out to recruit students with special needs.

Respondent 6 stated that all materials were individually created for students [sic].

The respondents indicated that the most utilized methods for obtaining students were community networking and referrals from individuals and professional organizations.

Question E was designed to gain insight into the application and evaluation process used to interview new students with special needs. All six of the interviewees responded.

e. What interview or application process do you use for evaluating potential new students?

Respondent 1 reported that no traditional application process is used because parents readily provide all needed information. As much information about the child as possible is acquired from the parents and then a meeting is set to observe the child. During the evaluation process, a simple schedule is presented to see if the child is willing to do some things at the keyboard.

Respondent 2 abides by a policy that states the willingness to work with any student who is willing to learn, and does not utilize a formal interview process.

Respondent 3 provides a phone interview with parents to help them feel comfortable and to learn information about the student, followed by a trial month of lessons to see if it will be a good fit.

Respondent 4 schedules a meeting with parents and the child to discuss their

needs and provide information about the programs offered.

Respondent 5 offers a preview lesson and interview of parents, which is the same process used with any new student.

Respondent 6 requires that children need to know colors and how to count to five.

The responses to this question reflect a variety of approaches regarding the interview or application process for potential new students. However, a congruent emphasis on communicating with both the student and parents to find the best approach for the student is one that is heavily conveyed throughout the interview responses.

Question F was designed to discover information and descriptions of the programs the individuals offer for students with special needs and disabilities. All six of the interviewees responded.

- f. Could you describe the programs you currently offer for students with special needs and disabilities?**

Respondent 1 offers an umbrella program that provides music experiences for students with Autism and other special needs.

Respondent 2 runs a private studio for children with special needs and an

organization that services children from undeserved backgrounds (for both children with and without special needs).

Respondent 3 currently offers private lessons through a home studio and has previously offered a Music Technology Camp with group music interactions.

Respondent 4 offers individual music therapy sessions which include piano and music reading, in addition to group music opportunities.

Respondent 5 offers private piano instruction and a week-long summer festival for students with Autism Spectrum Disorder.

Respondent 6 runs a music program that offers chimes and private piano for children with developmental and physical disabilities.

In response to this question, all interviewees indicated that the programs they currently offer for students with special needs and disabilities are centralized around piano.

Question G was designed to learn whether the respondents offer private or group piano lessons, or both. All six of the interviewees responded.

g. Do you offer private or group lessons?

Respondent 1 offers private lessons.

Respondent 2 offers private lessons through the piano studio and group lessons through a music organization.

Respondent 3 offers private lessons.

Respondent 4 offers private therapy sessions that often include piano and also offers a community group music experience.

Respondent 5 offers private lessons for students and group lessons at a summer festival.

Respondent 6 offers both private and group lessons.

The responses to this question indicate that the individuals offer a combination of private and group lessons.

Question H was designed to learn how the respondents structure the piano lessons. All six of the interviewees responded.

h. How do you structure your lessons?

Respondent 1 offers either 30-minute, 45-minute or 60-minute weekly lessons depending on the child. Lessons follow a specific learning routine for each aspect of the lesson (waiting for their lesson, how to get books ready, wait for instruction, and lesson routine.)

Respondent 2 designs the lesson based on the need of the child, and organizes the lesson into 3 to 5-minute tasks so each child can feel accomplished.

Respondent 3 offers customized lessons based on the student's needs and coaches each student through the lesson assignments at a flexible pace.

Respondent 4 determines the format of the lesson based on the goals and objectives of each child.

Respondent 5 structures lessons in terms of long-term and short-term goals. Lessons always begin by reviewing concepts from the previous week, practice the difficulties and practice new elements for next week.

Respondent 6 offers 30-minute lessons, and designs each lesson around the needs of the student.

The responses to the question indicate that the interviewees offer a variety of lesson structures and techniques, but the needs of the student remain at the center of the planning in all responses.

Question I was designed to gain insight in the routines or schedules the respondents use with students in piano lessons. All six of the interviewees responded.

i. What types of routines or schedules do you use with students in lessons?

Respondent 1 typically utilizes verbal or written routines.

Respondent 2 indicated that a visual schedule is used, and students can choose their preferred order at the start of the lesson. There is a goal of accomplishing 10 things in lessons, which may be chosen from a variety of activities, and the schedule includes short breaks after finishing between one to three assignments.

Respondent 3 indicated that a structured schedule is not always utilized in lessons.

Respondent 4 designs the lesson schedules to fit the goals and objectives for each child, but lessons include either some or all aspects of a routine that involves songs, movement, piano, and an activity involving a parent or caregiver.

Respondent 5 utilizes a notebook-based assignment for each student in the studio. Assignments are written in the notebook during each lesson and used to assist students in remembering new material.

Respondent 6 provides typed words and braille words for students and utilizes a board maker schedule.

In response to this question, interviewees indicated a variety of methods for utilizing routines and schedules in piano lessons. A consistent theme is the emphasis on maintaining the goals and needs of the student as the focal point of the lesson.

Question J was designed to learn how the respondents require their students to practice. All six of the interviewees responded.

j. How do you require your students to practice?

Respondent 1 employs a specific five-step plan that is used in both lessons to learn pieces and in practicing for students.

Respondent 2 give recommendations to students but does not have requirements for practice.

Respondent 3 encourages and incentivizes practicing but does not require it.

Respondent 4 encourages practicing but does not require it.

Respondent 5 assigns a prescribed amount of practice time each day.

Respondent 6 asks students for three days of practicing each week.

In response to this question, the individuals reported implementing diverse practicing requirements for their students.

Question K was designed to discover if the respondents assign specific practice methods or times for their students. All six interviewees responded.

k. Do you assign specific practice methods or times?

Respondent 1 reported that while it is flexible, the students do practice every day and the parents build that into the child's schedule at home. After students practice their lesson assignments, they are encouraged to create their own music at the piano.

Respondent 2 assigns pieces to practice or activities to do, but no specific instructions beyond that.

Respondent 3 indicated that specific practice times are not given, but goals are set for each student to assist them in playing piano for longer periods of time.

Respondent 4 does not assign specific practice times for students with ASD unless they are high-functioning and highly motivated to practice.

Respondent 5 indicated that students are given specific instructions that are written in their lesson notebooks.

Respondent 6 does not assign specific practice methods or times.

The responses to the question indicate a wide range of methods used by the individuals to encourage their students to practice.

Section two of the interview includes eight questions regarding the respondents' student demographic and population.

2. Student Population

Question A was designed to learn what ages of students are taught by the interviewees. All six of the individuals responded.

a. What ages of students do you teach?

Respondent 1 teaches students from age 4 to 50's.

Respondent 2 indicated teaching the whole age range of students.

Respondent 3 teaches students from age 3 to 100.

Respondent 4 teaches students from age 3 to 21.

Respondent 5 teaches students from ages 8 to 55.

Respondent 6 teaches students from age 4.5 to 53.

In response to this question, the interviewees indicated a consensus of teaching

students from pre-school age to adult.

Question B was designed to learn how many students with special needs each respondent currently teaches. All six of the interviewees responded.

b. How many students with special needs do you currently teach?

Respondent 1 currently teaches ten students with special needs.

Respondent 2 indicated that seven out of 17 of the private students have special needs, and estimated that half of the children in the group program have an IEP.

Respondent 3 currently teaches 25 students with special needs.

Respondent 4 currently teaches 22 students with special needs.

Respondent 5 currently teaches three students with special needs.

Respondent 6 currently teaches 45 students with special needs.

In response to this question, the interviewees indicated that either all or the majority of the students they currently teach have special needs.

Question C was designed to gain insight into what special needs the respondents' students have. All six of the interviewees responded.

c. What special needs do they have?

Respondent 1 indicated that all students but one currently have ASD, but previous students have had ADD/ADHD, developmental delays, fine motor-skill delays, speech delays, Apraxia of speech, Down Syndrome, hearing and visual impairments.

Respondent 2 indicated that most students have ADHD, ASD, auditory processing, and learning disabilities including Dyslexia.

Respondent 3 indicated that most students have ASD and/or other needs and one has Parkinson's. Previous students have had Down Syndrome, Tourette's Syndrome, mitochondrial syndrome, blindness and deaf.

Respondent 4 indicated that the students have ASD, Specific Learning Disorders, and emotional/behavioral disorders.

Respondent 5 indicated that all current students have ASD.

Respondent 6 indicated that the students have Down syndrome, ASD, Dyslexia, Fragile X, cognitive delay, physical, speech and vision impairments, ADHD, auditory processing, Dyscalculia, Dysgraphia, and Dyspraxia.

The response to this question reveals that the interviewees' students currently present with a variety of special needs, but the most prevalent are ASD and ADD/ADHD.

Question D was designed to learn if the respondents only teach students with ASD or if they teach students with other special needs in addition to ASD. All six of the interviewees responded.

d. Do you solely teach students with ASD or do you teach students with other special needs?

Respondent 1 states the willingness to teach students with any special need they present with, but the majority of students have ASD.

Respondent 2 teaches students who have a variety of special needs as detailed in the previous response.

Respondent 3 teaches students with a variety of special needs, but primarily those with ASD and ADD/ADHD.

Respondent 4 works with students who have a variety of special needs, but they primarily have ASD.

Respondent 5 currently only teaches students with ASD, but has taught students with other special needs in the past.

Respondent 6 teaches students with a variety of special needs as detailed in the previous response.

The responses to this question indicate that the interviewees do teach students that present with other special needs, but ASD is the primary need presented.

Question E was designed to learn how many students with ASD the interviewees teach. All six of the individuals responded.

e. How many students specifically with ASD do you teach?

Respondent 1 currently teaches nine students with ASD.

Respondent 2 currently teaches two students with ASD and has worked with over 30 in the past.

Respondent 3 currently teaches 25 students with ASD.

Respondent 4 teaches approximately 15 students with ASD per week and has worked with other 100 children with ASD over the years.

Respondent 5 teaches three private students with ASD and teaches between five and eight at the summer festival.

Respondent 6 teaches 25 students with ASD.

In response to this question, the interviewees provided the specific number of students with ASD they currently teach, as well as some information regarding the number of students with ASD they have taught in the past which speaks to their impact as music educators.

Question F was designed to learn what other comorbid symptoms the interviewees' students with ASD present. All six of the individuals responded.

f. What other comorbid symptoms do your students with ASD present?

Respondent 1 indicated that the students with ASD may present developmental delays of all kinds, motor-skill, speech and cognitive delays, Apraxia of speech, ADD/ADHD, OCD, physical disabilities, and diet/environment related issues.

Respondent 2 indicated that the students with ASD also present ADD, ADHD, and OCD.

Respondent 3 indicated that students with ASD may also present OCD, Bipolar Disorder, food and environmental sensitivities, sensory related issues, Tourette's Syndrome, and other needs.

Respondent 4 indicated that the students with ASD may also present with ADD, emotional/behavioral problems, speech and communication difficulties, learning issues, health challenges, and anxiety disorders.

Respondent 5 indicated that the students with ASD also present Tourette Syndrome and blindness.

Respondent 6 indicated that the students with ASD also present ADHD, Dyslexia, speech impairments, blindness, and cognitive delays.

The responses to this question indicate that the individuals' students may present with multiple other symptoms in addition to the students' symptoms associated with ASD.

Question G was designed to gain insight into the gender percentages of students with ASD in the interviewees' piano studios. All six of the individuals responded.

g. What are the gender percentages of students with ASD in your studio?

Respondent 1 indicated that all nine of the students with ASD are male, and the vast majority of students in the studio with ASD are male.

Respondent 2 indicated that all of the students with ASD are male.

Respondent 3 indicated that most of the students with ASD are male, but a growing number of female students with ASD has been observed.

Respondent 4 indicated that approximately 75% of the students with ASD are

male.

Respondent 5 indicated that all three of the students with ASD are male.

Respondent 6 indicated that 75% of the students with ASD are male.

In response to this question, the prevalence of male students with ASD in the piano studios represents the majority of the gender population among students with ASD. This is consistent with data from the CDC and current trends in Autism diagnoses.

Question H was designed to learn how many of the students the interviewees consider to be high, middle and low on the spectrum. All six of the individuals responded.

h. How many of your students do you consider to be high, middle and low on the spectrum?

Respondent 1 indicated that one student is on the high end of the spectrum and under old diagnostic criteria, they would be classified as having Asperger's Syndrome. Two students are in the middle of the spectrum and the rest are low.

Respondent 2 indicated that all students are currently high-functioning but in the past, they have primarily been middle or low on the spectrum.

Respondent 3 indicated that the majority of students are currently high-functioning and the other students are evenly distributed between middle and low-functioning on the spectrum.

Respondent 4 explained that some students may be high-functioning in some areas and low-functioning in others, making the criteria for high, middle and low functioning complicated.

Respondent 5 indicated that one student is high, one is middle, and one is low on the spectrum.

Respondent 6 indicated that those questions are not asked of families or students.

In response to this question, the interviewees indicated that they teach students who they consider to be high, middle and low on the spectrum, signifying that they teach students who function at varying ends of the spectrum.

Section three was designed to learn what curriculum, literature and materials the individuals use to teach music reading to piano students with ASD.

3. Curriculum

Question A was designed to determine if the interviewees use a print method series for teaching music to their students with special needs and ASD. All six of the interviewees responded.

- a. **For the purpose of this study, I am defining music reading as: the ability to identify notes, find them on a keyboard, actualize and play them with rhythmic accuracy. Do you use a print method series for teaching music reading?**

Respondent 1 indicated that a method is used.

Respondent 2 indicated that a method is used but is not the primary focus of the lesson.

Respondent 3 indicated that a method is used.

Respondent 4 indicated that a method is used to help in teaching music reading to students with ASD.

Respondent 5 indicated that a method is not used.

Respondent 6 indicated that a method is used.

The responses to this question indicate that the majority of the interviewees use a print method series for teaching music reading to their students with ASD.

Question B was designed to learn what method is used by the interviewees. Five of the six interviewees responded.

b. If so, what method do you use?

Respondent 1 stated that the “Premier Piano Course” by Alfred is currently the preferred method, but other methods including “Piano Adventures” by Faber have also been used.

Respondent 2 indicated that there is no specific method used. The choice of method depends on what works best for the student, and adaptations are made to the method such as color coding and teaching by rote using visual images as a guide.

Respondent 3 indicated that the “Piano Adventures” series by Faber is utilized the most.

Respondent 4 indicated that “Music for Little Mozarts” by Alfred is used the most often, but the stories from the series are not included as they are too abstract and involved for most children with ASD.

Respondent 5 indicated no response.

Respondent 6 stated that the method is based on the reading ability of the child, but “Music for Little Mozarts” by Alfred or “Piano Adventures” by Faber are most often used.

In response to this question, the interviewees indicated that while some have preferred methods, the method is chosen based on the ability of the student,

keeping the students' needs at the forefront of the selection process.

Question C was designed to discover if the interviewees create their own resources for use in lessons. All six of the interviewees responded.

c. Do you create your own resources for use in lessons?

Respondent 1 does create resources for use in lessons.

Respondent 2 does create resources for use in lessons.

Respondent 3 does create resources for use in lessons.

Respondent 4 does create resources for use in lessons.

Respondent 5 utilizes standard piano teaching literature and adapts it for lessons.

Respondent 6 does create resources for use in lessons.

The responses to this question indicate that all interviewees create their own resources for use in lessons.

Question D was designed to learn what materials the individuals have created for use in lessons. All six of the interviewees responded.

d. If so, please describe the materials you have created.

Respondent 1 has created an improvisation curriculum that goes from beginning to advanced levels and is based on the tenets of Music Learning Theory to immerse students in a sound culture to help them identify patterns through sound.

Respondent 2 adjusts printed scores to adapt them for use in lessons and has created original visual flashcards to teach keyboard geography, rhythm cards, and schedules.

Respondent 3 has created a collection of adaptive music for piano and has created MIDI files and accompaniments to be used with the students' music.

Respondent 4 has developed a method for piano instruction for children with ASD which is based on the theme of "Pizza," and includes beginning piano pieces with words and pictures relating to pizza, as well as pictures of rhythm patterns depicting a piece of pizza and simplified worksheets for note recognition and rhythm patterns.

Respondent 5 uses the Anna Magdalena Bach Notebook as well as Burgmüller Opus 100 in addition to improvisations based on parameters that are created for students during the lesson.

Respondent 6 has created color-coded music, transcribed music to more simplified versions, schedules, and games for note reading and rhythm.

In response to this question, the individuals described the variety of original materials created specifically for use in lessons with students with ASD and special needs.

Question E was designed to learn if the individuals use any other supplementary materials in lessons. All interviewees responded.

e. Do you use any other supplementary materials in lessons?

Respondent 1 uses the method and performance book from the method series. Theory books may also be used, depending on the student, as well as additional repertoire from early to intermediate levels such as piano concertos and assisting students with composing their own music.

Respondent 2 uses flashcards and games.

Respondent 3 uses the lesson, theory and technique books from the method series and will assign extra pieces to students at times.

Respondent 4 utilizes rhythm instruments and drums to enhance music reading for notes and rhythms, and also uses the plush toy figures from the

“Music for Little Mozarts” series for some students.

Respondent 5 does not use other supplementary materials in lessons.

Respondent 6 utilizes flashcards, iPads, video recording, and sticker charts.

The responses to this question show the variety of supplementary materials and individual creativity used by the individuals to personalize the lesson experience for students with ASD and special needs.

Question F was designed to discover if the individuals utilize technology in piano lessons. All six of the interviewees responded.

f. Do you utilize technology in lessons?

Respondent 1 indicated that some technology is used in lessons.

Respondent 2 indicated that technology is used in lessons.

Respondent 3 indicated that technology is used in lessons.

Respondent 4 indicated that technology is used in lessons.

Respondent 5 indicated that technology is not used in lessons.

Respondent 6 indicated that technology is used in lessons.

The responses to this question indicate that most of the interviewees utilize a form of technology in lessons.

Question G was designed to learn why types of technology the interviewees utilize in piano lessons. All six of the interviewees responded.

g. If so, what types of technology?

Respondent 1 indicated that iPhone or iPad videos are used in lessons so that students can take home and use during practicing. Online flashcards are also given to some students as appropriate to the students' ability to see a connection between the flashcard exercise and what is being done in the lessons. Harpsichord or other sounds on a Yamaha Clavinova are also used in lessons.

Respondent 2 indicated that technology is used to record repertoire to assist students in practicing and that timers are used to help students transition between activities. Games and apps are infrequently used.

Respondent 3 indicated that Yamaha Clavinovas and MIDI files are heavily used in lessons, and that apps such as YouTube, Yamaha Chord Tracker, Piano Maestro and DustBuster are also used. Students' performances are often recorded onto USB drives and then sent home to assist in practicing, or the

files are sent to a Dropbox account where parents can access them.

Respondent 4 indicated that computer timers and apps with unusual sounds and alarms are used for motivation during lessons for note identification games. Video recordings are also utilized to record student performances.

Respondent 5 does not utilize technology in lessons.

Respondent 6 utilizes the technology identified in the previous question.

In response to this question, the interviewees indicated that the technology used in lessons is used for specific purposes of assisting students with practicing or other defined goals.

Section four was designed to understand the pedagogical process used by the individuals in piano lessons with students with ASD. All six of the interviewees responded.

4. Pedagogical Process

Question A was designed to determine the process by which the individuals introduce a new piano to students with ASD in piano lessons. All six of the interviewees responded.

a. How do you introduce a new piece to a student?

Respondent 1 indicated that the student is equipped to learn a new piece by a series of learning routines and by communicating with the student so they are aware of what is next. The students are, at times, given a choice as to which piece is learned next, and get to listen to the pieces prior to choosing. When the student is ready, the five-step-plan is utilized to help the student progress through the music at a suitable pace, and time is allotted to ensure that the student is able to play the new music.

Respondent 2 indicated that the process is customized based on the strengths and needs of each child, but that it may include tasks broken down into small steps with verbal cues, playing the new music for the student to hear, using a color-coding system to label the music, or recording the music for the student to take home and listen.

Respondent 3 indicated that the new pieces are introduced to students by allowing them to listen to the music, which is then followed by a process of 'see, hear, do' using positive and affirmative language and tracking in the music to help the student be successful during the activity.

Respondent 4 indicated that a new piece is introduced by associating the title of the piece with the pictures on the page, then playing the piece for the student. Students may be asked simple questions about the piece, and students are encouraged to clap, play a rhythm instrument, move or sing while listening to the piece.

Respondent 5 indicated that the new piece is always performed for the student.

Respondent 6 indicated that the process for introducing a new piece is based on the individual needs of each child.

In response to this question, the interviewees indicated a variety of methods and processes for introducing a new piece to a piano student with ASD. Each of the individuals utilize listening to the new piece as a central part of the learning process.

Question B was designed to learn how the interviewees determine the best approach for teaching music reading to each student. All six of the interviewees responded.

b. How do you determine the best approach for teaching music reading to each student?

Respondent 1 indicated that students are given time to do auditory processing, appropriate pacing to put the skills together, and time to work. The process begins by getting to know the student through the evaluation and interview to know how much time the student will need to process the learning routine. The routine consists of small steps to assist the student in learning the concepts, while using appropriate, direct language to guide the students as they play.

Respondent 2 indicated that strategies are formed based on the child, and the process consists of a combination of trial and error and utilizing teaching tools that work in a variety of situations.

Respondent 3 utilizes the Faber “Piano Adventures” series to guide the music reading process.

Respondent 4 indicated that knowledge of the student’s strengths, cognitive level and communication skills are utilized in determining the most effective strategy for music reading, and that music reading may not be the goal for each student.

Respondent 5 indicated that each student is given a piece of music to sight-read.

Respondent 6 indicated that this is accomplished by getting to know the student and building trust.

In response to this question, the interviewees indicated that a combination of routines and methods are used to find the best way to teach music reading to each student, but that the students’ abilities and needs continue to be an integral part of the process.

Question C was designed to learn how the individuals help students to navigate

music reading in elementary and intermediate piano literature. All six of the interviewees responded.

c. How do you help students navigate music reading in elementary and intermediate literature?

Respondent 1 indicated that the 'five-step plan' is utilized, but students will also play hands separately before playing together and the instructor's finger tracks in the score to help direct the students' attention.

Respondent 2 indicated that the process is done step-by-step in small increments and utilizes a mixture of learning modes.

Respondent 3 indicated that 'see, hear, do' and singing the songs are utilized in helping the students to slowly learn the patterns.

Respondent 4 indicated that the child's strengths remain at the forefront of the process, and that the child is carefully observed to determine the speed at which new literature is introduced.

Respondent 5 indicated that students read through new pieces in their entirety at the beginning of the learning process, and they are taught sight-reading tactics to help them achieve faster and more accurate reading.

Respondent 6 indicated that color-coding, flashcards and iPad games are utilized, and that some students come to the lesson and have already figured out staff reading on their own without assistance.

The responses to this question indicate that a wide range of approaches and learning routines are used to help students navigate music reading in elementary and intermediate literature.

Question D was designed to learn what teaching techniques the individuals have found to be successful in helping students navigate advanced literature. All six of the interviewees responded.

d. What teaching techniques have you found successful in helping students navigate advanced literature?

Respondent 1 indicated that the 'five-step plan' is still used in conjunction with special attention to pacing and careful choices of literature, and that students are never forced to do more than they feel than can do.

Respondent 2 indicated that the process is accomplished by step-by-step instruction in small increments and a mixture of learning modes.

Respondent 3 indicated that an emphasis is placed on listening by having the students hear the entire piece, and that details of the music are presented in creative ways to help the students be successful.

Respondent 4 utilized collaboration with other professionals by recommending students who had the necessary discipline and motivation to continue further piano study with a university professor to help students maximize their potential.

Respondent 5 indicated that a group learning environment is used to work on advanced literature during the summer festival, and that students are then assigned a mentor who takes notes on the lessons and helps them practice.

Respondent 6 indicated that recorded videos of playing and the music are utilized as teaching tools.

In response to this question, the individuals indicated that learning routines, listening to the pieces and careful practice instructions assist in helping students navigate advanced piano literature.

Section five was designed to learn the approaches utilized by the individuals to teach music reading to students with ASD and other special needs.

5. Music Reading

Question A was designed to learn how the individuals introduce keyboard letter names and correlate them to notes on a staff. All six of the interviewees responded.

a. How do you introduce and correlate keyboard letter names to notes on a staff?

Respondent 1 indicated that the processes for music reading and note reading are taught differently, and that students learn to identify musical patterns in terms of white/black key combinations for note reading. When students learn repertoire, it is approached from the music reading perspective of learning how to correlate the dot on the staff to the correct key on the keyboard, which

is then followed through by the 'five-step plan.'

Respondent 2 indicated that three types of flashcards are used to help students identify the keys and notes with an emphasis on directional reading ("going up"), and that the process is repeated until the student can identify by his/herself.

Respondent 3 utilizes a system of 'say, play, point' to help students employ hand-eye coordination in connecting letter names to names of keys on the keyboard, and moves slowly through staff reading.

Respondent 4 utilizes a specific order for introducing keyboard names and notes of the staff which are broken down into manageable portions depending on the child. Concepts are then taught sequentially and are reinforced in a variety of ways.

Respondent 5 indicated that while a specific tactic is not used, students read a lot of music using landmark notes on the staff and on the keyboard.

Respondent 6 utilizes a sight-word approach similar to how reading is taught in schools.

The responses to this question indicate various methods for teaching music reading, but they present a congruent emphasis on the importance of discovering ways in which to connect the tactile act of playing the key with the visual

association of the dot (music) on the page.

Question B was designed to discover if the individuals use mnemonic devices when teaching staff reading. All six of the interviewees responded.

b. Do you use mnemonic devices when teaching staff reading?

Respondent 1 indicated that mnemonic devices are not typically utilized since they add additional layers to the learning process, but that methods are customized to the students' needs, such as using colors to help teach scales to a student who experiences synesthesia.

Respondent 2 indicated that the use of mnemonic devices depends on the child.

Respondent 3 indicated that 'F-A-C-E' and 'All Cows Eat Grass' are utilized, in addition to an emphasis on helping students see the grand staff as a mirror with Middle C in the middle, three spaces up is C, and three spaces below Middle C is Bass C.

Respondent 4 indicated that 'Every Good Boy Does Fine' and 'F-A-C-E' are utilized for students who can read words, but that many students learn to recognize notes on the staff without the use of an obvious memory device.

Respondent 5 indicated that mnemonic devices are not used.

Respondent 6 indicated that mnemonic devices are used at times, but it depends on the student.

The responses to this question indicate that while mnemonic devices may be used, the use of them is dependent on the student and their needs. The respondents also stated that many students are able to learn to read notes on the staff with ease.

Question C was designed to learn if the individuals have found any games or activities that have been successful in reinforcing note names on the staff. All six of the interviewees responded.

- c. **Are there any games or activities that you have found successful in reinforcing note names on the staff?**

Respondent 1 indicated that while games are not used, various teaching tactics such as using colored dots to represent left hand/right hand and writing cues in the music are utilized.

Respondent 2 indicated flashcards are used and that repertoire slowly progresses to allow students to focus on one or two notes at a time to allow time for repetition.

Respondent 3 indicated that the students often sing in lessons and that many students with ASD have perfect pitch.

Respondent 4 indicated that many students with ASD enjoy challenging activities and games, and that customized note-speller worksheets and a game involving a timer and the student trying to play as many correct notes as possible in a set time are used.

Respondent 5 indicated that students do sight-reading but that no specific games are utilized.

Respondent 6 indicated that an iPad app that allows for specific notes and clefs to be selected is utilized.

The responses to this question indicate that not all activities used in lessons may be qualified as games, but that various methods for helping students reinforce note names are utilized.

Question D was designed to learn what approach the individuals use when teaching steps and skips on the staff. All six of the interviewees responded.

d. What approach do you use when teaching steps and skips on the staff?

Respondent 1 indicated that the concept of skips is avoided to help prevent layering and confusion, but students are taught an improvisation curriculum that provides them with a wide repertoire of patterns, and they begin to equate sound patterns with note patterns in the music. For some students, a step-by-step approach of counting lines and spaces is used as needed.

Respondent 2 indicated that no explanation is given for the concept but that flashcards are used for the labeling process along with a kinesthetic activity for students to engage in the learning.

Respondent 3 indicated that very tactile approaches are used by tapping on top of students' hands and helping them play intervals to remember the feeling. Steps and skips are reinforced in a variety of ways by listening to the music, utilizing theory and ear-training, and by associating steps to notes that are 'next door.'

Respondent 4 utilizes repetition and customized worksheets to ensure that students can identify lines and spaces when looking at the staff and that they are able to hear the difference between a skip and a step.

Respondent 5 indicated that steps and skips are taught as the visual identification of moving from a line and a space or a line and a line.

Respondent 6 indicated that the concept of 'steps and skips' is abstract for many students and is sometimes not used or discussed.

In response to this question, the interviewees stated that the concept of steps and skips are taught in pragmatic, tactile ways by centering around the physical act of playing the patterns.

Question E was designed to learn how the individuals introduce flats, sharps, and accidentals in piano lessons. All six of the interviewees responded.

e. How do you introduce flats, sharps and accidentals?

Respondent 1 indicated that these concepts are taught when students are learning the key names, and are succinctly explained as the 'black keys have

two different names.’ Students often are able to remember tonal centers without understanding key signature, so some may play B-flats to make F Major sound correct.

Respondent 2 indicated that these concepts are taught using pentascales and the black keys are introduced with both letter names (F-sharp and G-flat) without excessive explanation.

Respondent 3 indicated that these concepts are taught as ‘sharps go up, flats go down’ within the context of half-steps and whole-steps within a scale, and students are asked to identify where the sharp or flat goes after hearing a scale.

Respondent 4 indicated that students must exhibit mastery of all keys on the keyboard and some treble staff notes, and that flats and sharps are introduced in terms of black keys with both letter names (C-sharp and D-flat).

Respondent 5 indicated that these concepts are introduced at the beginning as soon as students are reading music on a staff so that they are not later perceived as difficult.

Respondent 6 indicated that these concepts are introduced slowly and very carefully.

In response to this question, the interviewees explained a variety of methods for introducing the concepts of sharps and flats to students, and most simply use the process of introducing the black keys as 'having two names' without excessive discourse or connect it to sound patterns the students already know.

Question F was designed to learn how the individuals incorporate counting with music reading. All six of the interviewees responded.

f. How do you incorporate counting with music reading?

Respondent 1 indicated that the layering of numeric or unit counting is avoided, but that directive words such as "Play, play, play hold" are utilized to help students know exactly what to do with their bodies to make the counting happen.

Respondent 2 indicated that the local school's method for counting is utilized in the studio to provide consistency, and that students often sing the notes in rhythm before playing a new piece. Both verbal and color-coded visual cues are used to incorporate the concepts.

Respondent 3 indicated that students are first taught to internalize the rhythm of the music through feeling and hearing, and verbal cues such as "Half-note" or "Whole-note-hold-it" are utilized to assist with the process.

Respondent 4 indicated that customized picture cards are utilized to help students learn rhythms independently from the piano music, and that clapping and speaking rhythms in "Half-note, quarter, quarter" is also used

to teach the concepts.

Respondent 5 indicated that these concepts are taught by having students count out loud.

Respondent 6 utilizes rote teaching to incorporate counting with music reading.

In response to this question, the interviewees indicated that syllables such as “Ta, ti-ti, ta,” “Whole-note-hold-it” and phrases such as “Play, play, play, hold” are used to direct the counting process in lessons.

Question G was designed to learn if the individuals use any additional symbolic notations for counting. Five of the six interviewees responded.

g. Do you use symbolic notations for counting?

Respondent 1 indicated that some students may write counts or directive words such as “Play, play, play, hold” in the music, but this depends on the needs of the student.

Respondent 2 did not indicate a response.

Respondent 3 indicated that standard rhythm notation is used.

Respondent 4 indicated that after the previously described counting methods are mastered that students gradually move to traditional counting using

numerical notation using “1, 2, 3, 4.”

Respondent 5 indicated that symbolic notations for counting are not used.

Respondent 6 indicated that the Kodaly and “Ta, ti-ti, ta” systems are used.

The responses to this question indicate that the same counting approaches discussed in the previous question are implemented by the interviewees in regard to symbolic notations for counting.

Question H was designed to learn if there are any games or activities which the individuals have found successful in reinforcing counting. All six of the interviewees responded.

h. Are there any games or activities that you have found successful in reinforcing counting?

Respondent 1 indicated that “My turn, your turn” is often used in the lesson routine to allow the instructor to play a short example of three or four notes and the student echoes the exact same notes in the same rhythm, and that improvisation is used to immerse students in a sound culture and introduce them to concepts such as duple and triple meter.

Respondent 2 indicated that flashcards are used, with the caveat that they require intentional use to assist with transference of skills. Students echo the teacher in playing excerpts and are sent home with video clips to use as reinforcements to their ears when reading the music at home.

Respondent 3 indicated that clapping and tapping are used to help students internalize rhythm, and that drums or percussive sounds on a Clavinova may be used to help students feel the beat.

Respondent 4 indicated that drums and rhythms instruments are used in conjunction with customized rhythm cards to reinforce counting.

Respondent 5 indicated that activities such as counting out loud, singing, and moving around the teaching space away from the piano are utilized.

Respondent 6 indicated that drums, rhythm sticks and the book “Winning Rhythms” are used to reinforce counting.

In response to this question, interviewees indicated a wide variety of creative ways to reinforce counting utilizing movement, listening and echoing to connect the rhythm to sound and movement.

Question I was designed to learn what teaching techniques the individuals have found successful in teaching music reading to students with ASD. All six of the interviewees responded.

- i. What teaching techniques have you found successful in teaching music reading to students with ASD?**

Respondent 1 indicated that in addition to the previously mentioned tactics, the development and management of the teaching persona in the use of voice, vocabulary and carefulness in establishing learning routines are special

teaching techniques that are used. A relationship is developed with the student so that they clearly understand the communication of what is important or humorous through consistency of vocabulary and ensuring that students understand the meanings of words being used.

Respondent 2 indicated that the teaching techniques indicated in the previous questions are used to teach music reading.

Respondent 3 indicated that charts with names of notes and mnemonic devices are used to teach music reading, in addition to creative ways to help students understand what they hear and develop spatial and kinesthetic intelligence.

Respondent 4 indicated that careful attention to pacing/planning, flexibility to adapt to each child's needs, structured learning routines, awareness of development changes, and evidence-based techniques for dealing with behaviors are techniques that are employed in the lessons.

Respondent 5 indicated that students may play one hand at a time to help break down a challenging element into a more manageable task.

Respondent 6 indicated that the teacher must get to know the student and build trust.

In response to this question, the interviewees indicated practical and diverse teaching techniques to utilize in lessons that may assist with achieving success in teaching music reading to students with ASD.

Section six was designed to learn about the special accommodations and vocabulary uses the individuals may use in lessons.

6. Accommodations and Vocabulary

Question A was designed to discover what accommodations the individuals make for students with physical disabilities. All six of the interviewees responded.

- a. What accommodations do you make for students with physical disabilities such as vision/hearing impairment, immobility, muscular coordination, etc.?**

Respondent 1 indicated that logistical and transportation accommodations are made for students with vision impairments to ensure handicapped parking as well as familiarity with the building and teaching studio, and careful attention to eliminate color-words and verbs that indicate vision from the teaching vocabulary and braille notation as needed. For students with hearing impairments, communications are focused on eye contact with the student, and students are encouraged to communicate their needs to slow down, repeat information or communicate their confusion to the teacher. Appropriate literature choices and literal, concise language are used when teaching students with immobility or muscular coordination deficits.

Respondent 2 indicated that ideals of perfectionism are set aside to allow the student to have a voice and relay their needs so the necessary adaptations can be made.

Respondent 3 indicated the importance of hearing and spatial awareness for students with vision impairments, and the combination of showing them what chords feel like and sending recordings home with students. Methods of hand-over-hand playing are used for students with hearing impairments to help them feel the rhythms and access their other heightened senses.

Respondent 4 indicated the importance of becoming familiar with the disability and how it manifests with that child through talking with parents and consulting with other professionals. Accommodations such as modifying the way an instrument is played, creating alternative ways for a child to respond and modifications to the music room and special seating arrangements are made for students.

Respondent 5 indicated that while most students with impairments are capable of getting around on their own, accommodations have been made for students to ensure that class readings are translated into Braille ahead of time.

Respondent 6 indicated that while the studio does not alter its physical setup, there is a clear space for walking, and the instructor will walk with the student if they are moving from one part of the room to another.

In response to this question, the individuals unanimously stated their willingness and intentional awareness to make the necessary accommodations for individuals with physical disabilities.

Question B was designed to learn how the individuals communicate with non-verbal students or students with significant intellectual disabilities. All six of the interviewees responded.

b. How do you communicate with non-verbal students or students with significant intellectual disabilities?

Respondent 1 indicated the importance of finding ways to communicate with students such as the use of facial expressions, positive tone of voice to indicate openness and warmth, and affirmative gestures like a thumb's-up or high-five to communicate through every action involved in the lesson.

Respondent 2 indicated that careful observance of the students' body language is used, in addition to simple prompts such as "do this" or "listen" while heavily relying on intuition and empathy to communicate with students through the unique language he/she brings to the studio.

Respondent 3 encourages the use of the iPad and technology in lessons with non-verbal students or students with significant intellectual disabilities and emphasized the importance of honest communication with parents.

Respondent 4 indicated that this is discussed with parents and professionals who work with the child, to learn how they communicate with that them. The

methods that work best for the child are then used in the lesson, such as gestures, pictures, communication boards, and music improvisation.

Respondent 5 indicated the importance of being playful and matching the students' mode of communication, even when students do not give correct answers to questions that are asked.

Respondent 6 indicated that communication boards and devices the child has may be used in lessons.

In response to this question, the individuals presented various methods for communicating with students who are non-verbal or have intellectual disabilities. The individuals emphasize the importance of finding a way to connect with each student and allowing the students' modes of communication to guide the communication during the lesson.

Question C was designed to learn what the individuals consider to be the most important aspects of communication with students with ASD and special needs. All six of the interviewees responded.

c. What are the most important aspects of communication with students with ASD/special needs?

Respondent 1 indicated the importance of never assuming that students understand the communication tools the teacher is using, using concise language and detailed instruction, and remember that the students are people and build the relationship with them.

Respondent 2 indicated the importance of observing and being responsive to every gesture, using literal language, being calm and nurturing, and being patient to create space for the student's voice to surface over time.

Respondent 3 indicated the importance of maintaining eye contact with students.

Respondent 4 indicated the importance of the teaching having a grasp of the child's forms of communication, and the use of alternative modes of communication to develop relationships and help students develop their full potential.

Respondent 5 indicated the importance of remembering that these individuals have great intellectual capacities and speaking to them in a very normal way.

Respondent 6 indicated the importance of speaking in deliberate ways and maintaining intentional, literal communication with the students.

In response to this question, the individuals stated, in a variety of ways, the importance of developing relationships with students to learn their communication patterns and using literal, concise language in lessons.

Question D was designed to learn the vocabulary the individuals use for counting to avoid number confusion with other numerical uses in music. All six of the interviewees responded.

d. What vocabulary do you use for counting to avoid number confusion with other numerical uses in music? (Measure numbers, finger numbers)

Respondent 1 indicated that for low-functioning students with ASD, numbers refer to finger numbers rather than to counting to avoid utilizing numbers in both categories and creating confusion.

Respondent 2 indicated that syllabic (Ta, ti-ti, Ta) counting is utilized.

Respondent 3 indicated the importance of beginning with a hearing-based learning model before students learn the explanation. "1, 2, 3, 4" will eventually replace "Quarter, quarter, half-note" but the students must hear it and feel it in the music to understand what they see in the music.

Respondent 4 indicated that while numbers are gradually introduced for counting, some students with ASD may not reach the level where numbers are introduced.

Respondent 5 indicated that number confusion is often a difficulty for students without special needs as well, so unit counting such as "1, 1, 1, 1" for quarter notes is used.

Respondent 6 indicated that numbers are never used in counting or dividing beats, but that rhythms are tapped on the students' shoulder and recordings of music are used.

In response to this question, individuals noted the importance of hear and feel the music in correlation with a consistent choice of counting method that does not confuse with finger numbers.

Question E was designed to learn what procedures the individuals use for addressing behavioral problems in lessons. All six of the interviewees responded.

e. What are your procedures for addressing behavioral problems in lessons?

Respondent 1 indicated that highly structured routines and observing students in lessons can help prevent most behavioral problems, but when they do occur, communication with parents and students is vital to learn triggers and how to avoid problematic situations. Teachers must be flexible to learn when to back off if it appears an outburst is coming or adjust lesson routines to accommodate the needs of the student. If behaviors are appearing in the lesson, they are also likely manifesting in other areas of the students' lives.

Respondent 2 indicated that most negative behaviors can be interpreted as communication, that they serve a function to make teachers aware that a task is overwhelming, and the use of schedules and routines can be critical. The teacher should strive to understand the source of the behavior and take steps to avoid triggering it by knowing what works best for each child.

Respondent 3 indicated the importance of knowing the triggers of students and being extremely aware and observant of students in the lesson through developing intuition.

Respondent 4 indicated the importance of looking for the underlying cause or trigger for behaviors such as stress, anxiety, frustration, boredom, or another diagnosis such as ADHD. Behavior plans may also be implemented and may include reinforcement, behavior charts, changes in teaching technique, reduced time in the lesson, the addition of more structure to the lesson, reducing the structure of the lesson, changed materials, etc.

Respondent 5 indicated that while there are not many behavioral problems, it is imperative to address them immediately and never ignore them.

Respondent 6 indicated that a stop-light system is utilized, and all students begin the lesson on 'green.' If a warning is given, the student is moved to 'yellow,' and if the student gets to 'red' then the teacher meets with the parent(s).

In response to this question, the interviewees emphasized the importance of communicating with parents and students concerning behavioral problems, and the necessity for structure and schedules in lessons to help avoid problems.

This question was designed to learn if the individuals had other suggestions to offer piano instructors who are teaching music reading to piano students with ASD. Five of the six interviewees responded.

Do you have any other suggestions to offer piano instructors who are teaching

music reading to students with ASD?

Respondent 1 indicated that individuals should consult the online and publication resources available in addition to conferences and piano journals, and emphasized the importance of not being afraid to try new things and allowing the students to be the teachers.

Respondent 2 did not indicate a response.

Respondent 3 emphasized a balance between education and intuition, and the importance of keeping the instruction simple and finding the tools to make music reading work for each student.

Respondent 4 indicated the importance of remembering that each child with ASD is a typically developing child in need of a unique learning style. Noticing changes in the child in language, social/emotional development can be vital in assisting the child to progress in music reading, and growth in this area may be sustained over an extensive amount of time. Collaborate with other teachers and professionals who work with children with special needs, and the teacher should know their own strengths and limitations.

Respondent 5 indicated the importance of finding some way to reach the student and finding alternative ways to learn music—playing by ear, imitating a teacher phrase by phrase. Always keep the music and the student's love for music at the heart of what is trying to be accomplished, even if that means finding alternative ways to teach them music.

Respondent 6 indicated the importance of being patient regardless of mistakes, utilizing parents as tools and resources, and getting to know the child.

Conclusion

The following consistencies emerge from the interview responses regarding the process of teaching music reading:

- An emphasis on the importance of discovering ways in which to connect the tactile act of playing the key with the visual association of the dot (music note) on the page.
- The importance of careful and appropriate repertoire selections based on the students' needs and ability, and the necessity to adapt learning materials.
- Counting is incorporated with music reading through the use of syllables such as "Ta, ti-ti, ta," "Whole-note-hold-it" and directive phrases such as "Play, play, play, hold" prior to associating counting with "1, 2, 3, 4."
- A focus on music reading versus note reading.
- The necessity to utilize concise and consistent verbiage when communicating with students.

It is clear from the interview results that individuals in the community, and families of individuals with special needs are increasingly interested in the possibility of piano study for students with ASD and/or other special needs.

While this is a new and rapidly growing sub-field in piano pedagogy, programs

are actively being developed in Canada, the U.S.A. and the U.K. to provide music educators with effective, evidence-based responses to the growing rate of Autism and special needs diagnoses.

In recent years, there has been increased visibility in adaptive pedagogy and piano teacher training for students with ASD and/or other special needs at state and national organization conferences such as the Music Teachers National Association conferences³¹ and its affiliates, and the National Conference on Keyboard Pedagogy.³² There is also a noticeable trend in the growth of adaptive piano pedagogy as evidence through webinars, and teaching videos, and other online resources by internationally acclaimed educators at the Frances Clark Center for Keyboard Pedagogy, *The Piano Magazine: Clavier Companion*,³³ The Royal Conservatory of Music,³⁴ and the Inclusive Piano Teaching Blog.

The Berklee Institute for Arts Education and Special Needs³⁵ will begin offering a “2020 Music Education and Special Needs study group for music educators around the United States. This one-of-a-kind educator professional development opportunity offers both in-person and remote participation options so that anyone anywhere can attend the sessions, gain valuable knowledge, and learn strategies for reaching every student in the music studio, classroom, and

³¹ https://www.mtna.org/Conference/Conference_Home/Conference/Home.aspx?hkey=cecd079e-f62b-4ed5-8575-57e2283ba248

³² <http://keyboardpedagogy.org/national-conference-info2>

³³ <https://www.claviercompanion.com/content/webinar-archives>

³⁴ <https://www.rcmusic.com/teaching/online-piano-teacher>

³⁵ <https://www.berklee.edu/berklee-institute-arts-education-and-special-needs>

ensemble settings.”³⁶ Interested individuals can earn professional development points (PDP’s), and the experience is offered at no cost.

Alternatively, Roehampton University in London, U.K.³⁷ now offers a postgraduate certificate, “Sounds of Intent,” which is a course designed to offer individuals an introduction to “music-developmental framework for children and young people with special education needs and disabilities (SEND). The ‘Sounds of Intent’ programme [*sic*] also offers professional development for music practitioners interested in working with children with learning difficulties.”³⁸

Increased advocacy for piano study and music opportunities for individuals with Autism Spectrum Disorder and/or other special needs is supplemented with the necessity for piano instructors to be adequately prepared to offer excellent programs for this population of students. It is both anticipated and hopeful that universities and colleges in the U.S.A. will recognize the significance of providing information and training in adaptive pedagogy for their student teachers or, at the very least, will offer modules on teaching special learners in every piano pedagogy course.

The need for advocacy and visibility for autism education programs has never been more pressing, and it is the hope of the author that this study will add to the body of adaptive piano pedagogy literature for student teachers, independent piano teachers and college and university faculty.

³⁶ <https://www.berklee.edu/berklee-institute-arts-education-and-special-needs/music-education-and-special-needs-study-group>

³⁷ <https://www.roehampton.ac.uk>

³⁸ <https://www.roehampton.ac.uk/postgraduate-courses/sounds-of-intent/>

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APPENDIX A

IRB APPROVAL



OFFICE OF RESEARCH COMPLIANCE

INSTITUTIONAL REVIEW BOARD FOR HUMAN RESEARCH APPROVAL LETTER for EXEMPT REVIEW

Rachel Davis
813 Assembly St.
Columbia, SC 29208 USA

Re: **Pro00085771**

Dear Ms. Rachel Davis:

This is to certify that the research study **Approaches to Teaching Music Reading to Piano Students with Autism Spectrum Disorder** was reviewed in accordance with 45 CFR 46.101(b)(1), the study received an exemption from Human Research Subject Regulations on **2/7/2019**. No further action or Institutional Review Board (IRB) oversight is required, as long as the study remains the same. However, the Principal Investigator must inform the Office of Research Compliance of any changes in procedures involving human subjects. Changes to the current research study could result in a reclassification of the study and further review by the IRB.

Because this study was determined to be exempt from further IRB oversight, consent document(s), if applicable, are not stamped with an expiration date.

All research related records are to be retained for at least three (3) years after termination of the study.

The Office of Research Compliance is an administrative office that supports the University of South Carolina Institutional Review Board (USC IRB). If you have questions, contact Lisa Johnson at lisaj@mailbox.sc.edu or (803) 777-6670.

Sincerely,

A handwritten signature in blue ink, appearing to read "Lisa M. Johnson".

Lisa M. Johnson
ORC Assistant Director and IRB Manager

APPENDIX B

INVITATION TO PARTICIPATE

Dear Dr. _____,

My name is Elizabeth Davis, and I am a Doctor of Musical Arts in Piano Pedagogy degree candidate at the University of South Carolina studying with Dr. Scott Price and Dr. Sara Ernst. I am beginning work on my final dissertation topic with a focus on teaching music reading to piano students with autism spectrum disorder.

As part of the study, I am seeking to interview nationally recognized pedagogues who have distinguished records in teaching music reading to students with ASD. The purpose of the study is to collect and summarize best practices used by recognized professionals.

I am very interested in interviewing you about your program and practices in teaching music reading to students with ASD. If you are willing to participate, I would be happy to facilitate an interview by email, phone, Skype, or your preferred method, at your convenience. The interview will consist of a prescribed set of questions made available to you prior to the interview, and including a section for you to add additional comments or information you feel important.

The study proposal will be reviewed by the University of South Carolina Internal Review Board, and you will have final approval of the interview transcript before final submission of the dissertation. Use of the interview content will be limited to the dissertation, and all identifiable information will be removed from transcripts to maintain confidentiality.

I understand that you are busy with your commitments but would appreciate your valuable contribution to this research.

Thank you for your consideration!

Sincerely,
Elizabeth Davis

APPENDIX C
FINAL TRANSCRIPT APPROVAL

Interview Transcript Acceptance

I, Jennifer Band, approve this final version of the interview transcript for inclusion in the final dissertation.

I understand that anonymity will be maintained in the interview transcription and in the analysis of the results.

Any further use of the interview transcriptions will not occur without permission from the person who was interviewed.

Signed _____
Jennie P. Band

Date 9/20/2019
9/20/19

Interview Transcript Acceptance

I, Beth Bauer, approve this final version of the interview transcript for inclusion in the final dissertation.

I understand that anonymity will be maintained in the interview transcription and in the analysis of the results.

Any further use of the interview transcriptions will not occur without permission from the person who was interviewed.

Signed DI Beth L

Date Sept 23 2019

Interview Transcript Acceptance

I, Melissa Martiros, approve this final version of the interview transcript for inclusion in the final dissertation.

I understand that anonymity will be maintained in the interview transcription and in the analysis of the results.

Any further use of the interview transcriptions will not occur without permission from the person who was interviewed.

Signed Melissa Martiros

Date 9/9/19

Interview Transcript Acceptance

I, Derek Polischuk, approve this final version of the interview transcript for inclusion in the final dissertation.

I understand that anonymity will be maintained in the interview transcription and in the analysis of the results.

Any further use of the interview transcriptions will not occur without permission from the person who was interviewed.

Signed *Derek Polischuk*

Date 9-20-19

Interview Transcript Acceptance

I, Scott Price, approve this final version of the interview transcript for inclusion in the final dissertation.

I understand that anonymity will be maintained in the interview transcription and in the analysis of the results.

Any further use of the interview transcriptions will not occur without permission from the person who was interviewed.

Signed 

Date 9/11/19

Interview Transcript Acceptance

I, Connie Wible, approve this final version of the interview transcript for inclusion in the final dissertation.

I understand that anonymity will be maintained in the interview transcription and in the analysis of the results.

Any further use of the interview transcriptions will not occur without permission from the person who was interviewed.

Signed Connie Wible

Date 10/17/19