
Exceptional Students in the Voice Studio: Understanding and Training Students with Asperger's Syndrome

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TEACHING VOICE LESSONS TO EXCEPTIONAL STUDENTS who may have difficulty in learning due to impairments in communication and social skills requires necessary accommodations and modifications in curriculum and instructions to help them fulfill their potential. Such teaching methods are rarely, if ever, addressed in undergraduate or graduate courses for vocal performance, music business, or liberal arts degrees. Additionally, music education majors are required by most states to complete only one special education course.

Research indicates that music educators consider themselves inadequately prepared to teach students with disabilities in the classroom.¹ Studio voice teachers also report feeling unprepared to teach exceptional students. In a survey of independent music teachers polled from the Music Teachers National Association (MTNA), Furman and Steele examined the degree to which private music teachers encounter teaching difficulties with students who require special considerations and adaptations due to physical, mental, behavioral, or learning disabilities. Of the 193 teachers that responded, 69 reported teaching “special students” or those with disabilities, and 64 indicated that they had no special training to equip them for teaching students exhibiting visual or hearing impairments, coordination difficulties, or behavior problems. Results also indicated the teachers’ desire for assistance from specialists, such as music therapists, when instructing these students.²

According to statistics from the Centers for Disease Control and Prevention, 1 in 68 children have been identified with an Autism Spectrum Disorder (ASD). Likewise, a recent study in the journal *Pediatrics* concluded that over the years 1997–2008, the prevalence of autism increased by 289.5%.³ Given the number of individuals diagnosed with autism is on the rise, it is certain that voice teachers will be faced with, or have already had the experience of, teaching studio voice lessons to students on the autistic spectrum.

Success for students with ASD is incumbent upon voice teachers being educated on the disability and understanding the most effective methods of instruction and assessment for individual and unique learning styles. Through empirical research including observation, direct teaching experiences, and interviews with professionals in the field of psychology, this article aims to draw awareness to the teaching of exceptional students in the voice studio,

and provide a methodology for instructing voice lessons to high functioning (HF) students with ASD, or what is commonly referred to as Asperger's syndrome (AS).

It should be noted that Asperger's syndrome was included in *The Diagnostic and Statistical Manual of Mental Disorders IV* (DSM-IV) as an official diagnosis within a group of developmental disabilities that includes autistic disorder (AD), Asperger's syndrome (AS), childhood disintegrative disorder (CDD), and the all encompassing diagnosis of pervasive developmental disorder not otherwise specified (PDD-nos).⁴ "With the release of DSM-5 in 2013, however, the new classification system eliminated the previously separate subcategories on the autism spectrum, and folded them into the broad term autism spectrum disorder (ASD)."⁵ Such change has spawned controversial discussions within the populations of people that identified themselves or others with the label AS. Within the context of this article, however, the term Asperger's syndrome (AS) will still be used.

ASD AND ASPERGER'S SYNDROME

The term Autism Spectrum Disorders (ASD) is used to describe neurodevelopmental disorders characterized by significant persistent deficits in social communication and social interaction, as well as a display of restricted, repetitive patterns of behaviors, interests, or activities with different levels of symptom severity.⁶ At the severe end of the spectrum, an individual may be nonverbal, intellectually disabled, and display repetitive behaviors such as hand flapping or rocking. At the other end of the spectrum, an individual may exhibit some of the same characteristics of classic autism, but also may demonstrate superior language and memory skills, and average to above average cognitive abilities.⁷

Although symptoms vary, individuals associated with Asperger's syndrome (AS) are high functioning, and have very good language ability with no early developmental delays.⁸ Individuals are intelligent and often excel academically, they are strong visual learners and often focus attention on parts and details of information. Gifted individuals may be drawn to and excel in the production of art, music, poetry, and foreign language. Many students with Asperger's syndrome prefer music to language and sometimes will follow requests when

they are sung rather than spoken.⁹ With such gifts, a voice instructor would be thrilled to have this exceptional student in the studio. To the untrained observer, a child with Asperger's syndrome may seem merely like a normal child behaving differently.¹⁰

Asperger's syndrome, however, does pose challenges to the individual and the instructor. Individuals have difficulty in coping with normal, everyday events and social interactions. They display unusual nonverbal communication, such as lack of eye contact, few facial expressions, or awkward body postures and clumsy gestures. Verbal communication may include repetitive speech, obsessional fixation on certain topics, monotone and rigid voice inflection, and pedantic speech. Language is interpreted literally with little understanding of metaphors or humor. Individuals are highly idiosyncratic with intense interests. Social isolation is often a result of inappropriate social communication, inflexible thoughts, unacceptable habits, aggressive actions, and lack of empathy or sensitivity to others.

Voice instructors, in some cases unknowingly, have observed characteristics of AS in their voice students. Instructors may complain or are critical about students' behavior in various ways: "He is so lazy! He never has his word for word translation completed." "She is always fifteen minutes late for class, and totally uninterested in the lesson. She just doesn't get it." "He has such a lovely voice, but he is always so deadpan on stage. I don't think he cares to try." "She is so inconsistent with her singing and memory. One moment she can sing it perfectly, and the next time she can't seem to remember the first verse." "This student makes me want to pull my hair out! He is completely disorganized, and just can't seem to keep on track during the lesson."

Voice instructors should be encouraged to take a step back, observe, and avoid misinterpreting a student's behavior.¹¹ In other words, a student's "deadpan expression on stage" may be a deficit in social communication, as opposed to the instructor's perception that the student "isn't trying," or a student's disorganization and perceived laziness may be attributed to impairment in executive functioning (organizational) skills.¹² Autism expert, Dr. Stephen Shore explains that without appropriate support, an individual with AS may feel he is drowning in a million different subtasks, as many have trouble prioritizing and organizing tasks.¹³

THE CLASS ROSTER—WE ONLY KNOW WHAT WE KNOW

In the collegiate setting, instructors are provided a class roster at the beginning of the semester. This roster includes the student's name and contact information, degree program, year in school, and perhaps a photograph. It does not, however, include a student's musical experiences and abilities, personality traits, preferences, and whether or not that student has a disability. Further, if a student with a disability is placed in your voice studio, it does not necessarily mean that you have received prior notification from Student Disability Services, or the student.

In compliance with section 504 of the Federal Law known as Public Law 93–112 (PL 93–112) titled the Rehabilitation Act of 1973, college and university officials are prohibited from requiring individuals to disclose disability or handicap at the time of application. Although some students voluntarily complete a preadmission disability disclosure, many disabled applicants do not divulge the nature of their handicap for fear it will hurt them in some way such as being labeled by others or being denied opportunities.¹⁴ In contrast to obvious handicapped conditions such as physical disability or blindness, a learning or social-emotional disability such as AS is not as apparent. Instructors must keep in mind that their studio may include students with hidden disabilities.

FIRST STEPS

If you have received prior notification that your voice studio will include an exceptional student, the first step in understanding the disability is to become familiar with the student's educational paperwork, behavior plans, and to begin engaging in discussions with knowledgeable colleagues.¹⁵ Many postsecondary schools have an Office of Services for Students with Disabilities that serves as a liaison between students and faculty. If your school does not have such an office, government funded programs are required by law to have an Americans with Disabilities Act or Section 504 Coordinator. You can contact the appropriate office to acquire disability information and request copies of the educational paperwork that the student has consented to release.

This educational paperwork may include a list of accommodations and modifications necessary for the student, such as providing additional time for testing, requiring a reduction in workload, or providing lists of key vocabulary terms.¹⁶ Paperwork may also include a more structured document, such as the student's most recent copy of an individual educational program (IEP) or 504 plan. The IEP, for example, provides a formal list of special education services including goals and objectives that will be provided to a disabled student.¹⁷ The U.S. Congress Public Law 94–112 mandates that IEPs be prepared for every public school student who receives special education and related services through the high school level. Therefore, college disabilities programs are not required by law to prepare IEPs for their participants.¹⁸ Disability staff recognizes, however, that IEPs can provide very important information that could be used in the process of evaluating reasonable accommodations in higher education, and college disability programs provide students the opportunity to submit this documentation upon application.¹⁹ Such documents provide voice teachers insight into the challenges they may face when teaching this student in a performance setting.²⁰

Other important pieces of legislation that instructors should be familiar with are Section 504 of the Rehabilitation Act of 1973, and the Americans with Disabilities Act (ADA), which govern higher education. These are civil rights statutes as opposed to education statutes, requiring that all postsecondary institutions make reasonable and necessary modifications to rules, policies, and practices to prevent discrimination and ensure access and opportunity for students with disabilities. "Equal access and opportunity" means the same as those afforded to the general population.²¹

Unfortunately, many studio voice teachers do not understand such laws, nor their rights and responsibilities as a teacher of students with special needs.²² Although it is a school's responsibility to educate faculty about the purpose of modifications and accommodations, the logistics of implementation, as well as the legal rights and obligations for both parties, in some cases, it will be up to the instructor to seek out such information from Disability Services, and to do independent research.

It is also important to seek support and gather information from knowledgeable colleagues (classroom teachers, advisors, ensemble conductors who are informed about

the student and disability) concerning the student's needs and appropriate ways to work with the student.²³ Understanding any disability—autism spectrum disorders, ADHD, physical disabilities—can be a daunting undertaking. The field is vast, and many disabilities have overlapping characteristics. Don't be afraid to ask for help. According to the authors of *Teaching Students with Autism Spectrum Disorders*, "Working together, a comprehensive team ensures consistency of teaching and intervention techniques across individuals, lessons and settings, increasing the likelihood of students with an ASD to acquire, maintain, and generalize new skills and abilities."²⁴

GETTING ORGANIZED AND SENSORY INTEGRATION DYSFUNCTION

The physical properties and organization of a room or voice studio for students with AS are as important as the lesson plan. Students with AS may exhibit sensory processing difficulties, which create an intense need for structure and consistency.²⁵ Instructors should be observant of the studio space. Are there piles of music and papers? Does the student have adequate space to sing and move? Is the lighting glaring? Does one encounter a neutral, pleasant smell in the room or an overpowering air freshener? Is every inch of the wall covered with photos and posters? Do the electronics in the room make a continuous humming noise? Is the room overly warm or cold?

Sensory processing difficulties result in atypical responses to sensory input such as light, sound, texture, smell, taste, and movement. This results in hypersensitivity or hyposensitivity to various sensory stimuli, and can cause stress and anxiety when the individual is trying to interpret the environment accurately. Likewise, sensory processing difficulties also can markedly decrease the student's ability to sustain focused attention or can result in hyperactivity, impulsivity, aggressiveness, self-injury, and anger.²⁶ This inability to process information through the senses is "sensory integration dysfunction."²⁷ For example, many individuals with autism spectrum disorders are highly attuned or even painfully sensitive to sound. Certain sounds such as a ringing telephone, or a loud, high-pitched sound such as a siren will cause some to cover their ears and scream.²⁸ Research

indicates, however, that frequent hypersensitivity to sounds in early childhood seems to have no detrimental effect on the musicality of adolescents with ASD later in life.²⁹ Other distractions in the environment, such as the noise of a ticking clock, the flickering of fluorescent lights, or an overabundance of visual objects can cause overstimulation of the senses and lead to high levels of distraction for the student.³⁰

Studio voice teachers can assist the student by managing the physical space. By organizing the studio in a way that is less distracting, and adapting the studio arrangement to best suit the needs of the students, instructors are providing environmental organization for students with AS. Distractions can be minimized in several important ways.

- Create clear physical and visual boundaries designating where each area begins and ends (a large solid-colored rug where the student stands to sing, bookcases that house the repertoire, a table where the student can place belongings).
- Limit the amount of visual "clutter" such as posters, pictures, artwork, and knickknacks.
- Reduce or avoid fluorescent lighting by using natural lighting from windows, floor lamps, or light filters.
- Mute electronics and phones.
- Paint the environment an off-white or muted color.
- Create a "safe zone" (the repetitive motion of a rocking chair, or the tactile sensation of stress/massage balls can have calming effects).³¹
- Clear pathways and boundaries.
- Store music and other studio necessities in an orderly and neat way.
- Create a specific area or wall display that includes schedules such as recital events, homework assignments, and important deadlines, which are organized and labeled accordingly.

It should be noted that students with AS can be easily overwhelmed by minimal changes in routines and can exhibit a definite preference for rituals. Changes and unpredictability in the environment may be very distressing and result in anxiousness and worry.³² Consequently, voice instructors of such students, should attempt to maintain sameness within the physical environment.

Taking such extreme measures to organize a voice studio at the collegiate level may seem time consuming and

nonsensical. Faculty members are naturally protective of the time they need for preparation, research, and community/college service and believe that perhaps students should be able to cope. Noted autistic professor Temple Grandin clarifies the issue: "So many professionals and nonprofessionals have ignored sensory issues because some people just can't imagine that an alternate sensory reality exists if they have not experienced it personally."

³³ But for AS students who struggle to regulate or control themselves or the environment, it is the teacher they depend upon to help them gain this control.

THE FIRST MEETING

After one has begun to acquire information on the disability, met with colleagues, and created an environment conducive to learning, the next step is to meet individually with the student prior to the first voice lesson. Contact the student directly. If contacting the student via email, the size of the type should be easily readable with a standard font that is void of distractions. You may also want to include the advisor or liaison from Disability Services in the communication.³⁴ Arrange the meeting in the voice studio where the instruction will take place. This will provide an organized space with minimal distractions, and will allow students to acclimate themselves to the environment before the first day of classes, which can be very stressful for all new students, and more so for a student with HF-AS.

For many voice teachers, this may be the first experience in meeting a student with a disability, and it may foster nervous or uncomfortable feelings, as one may fear offending the individual or saying the wrong thing. It is natural to experience such a response when you first begin to interact with people with disabilities, and it is okay to admit that.³⁵ Try to keep focus, however, on the person and not the disability by using "person-first" language. A disability should not be used as the primary adjective to identify an individual, such as "the deaf student in my class"; a disability is not the most important descriptor of any individual. Defining persons by their disability, as if the disability comprises the entirety of the person, often isolates or segregates people and, more importantly, fails to recognize their humanness that goes well beyond the disability.³⁶ "Recognize that the student's

disability does not supersede all other human attributes that the individual possesses."³⁷

Prior to the first meeting, print schedules such as required recitals and performances, master classes, syllabi, and academic deadlines. Although typical protocol for most instructors, this prior organization is particularly helpful to students with AS, as they respond well to visual stimulus and clues such as icons, graphics, pictures, and color or font emphasis. The more abstract the picture or icon, however, the less meaningful it will be.³⁸ Color coding or highlighting the student's requirements on these documents will also be beneficial for the student. If possible, provide the names and photographs of the other students that will be in the voice studio. When distributing the materials to the student, present them one at a time without a lot of other visual distractions.³⁹ Some students would also appreciate having the same documents available to view at home on the computer screen, as material presented by a person adds a social and linguistic dimension to the situation, which can increase the student's confusion.⁴⁰

The first meeting is also a good time to arrange the student's lesson (day and time) for the semester. Studio teachers should have a printed copy of the student's class schedule so that considerations may be made regarding transition time. When planning for students who have autism it is advantageous to seek input from Disability Services as to when the student would optimally function, because one can arrange lessons (demands) accordingly.⁴¹ Note that the changing of classes causes great apprehension for many students,⁴² so allow enough time for students to get from class to class, have time to get to a locker, or use the bathroom facilities.

Take the student on a tour of your voice studio and other rooms designated for voice study, such as a recital hall, the studio classroom, and practice rooms. If a significant amount of time is spent in a classroom, the voice instructor should also assess this space prior to the first meeting in terms of lighting, seating, where the doors and windows are located, and eliminating as many distractions as possible in a shared space. Because students with AS have attention deficits and discomfort when surrounded by many students in a classroom, having the student sit up front and closest to the nearest exit is advised. Also, select an additional space near to the classroom as a "retreat" space. This retreat room should

be a quiet, private space (e.g., practice room, study room) where the student can go when feeling overwhelmed, anxious, or just needing a break. Make sure the retreat space is close enough to the classroom so that the student can exit and return quickly and unnoticeably. During the tour, point out where the quiet retreat is as well as guidelines for using the space.⁴³ By preparing the student for what to expect, you are helping to alleviate undue stress and anxiety for the student in new situations.

During the first meeting with the student, Toni Fuller Merfeld, an autism specialist and director of Metro Kids West in Clive, Iowa, recommends that the instructor observe the student's preferences in both the physical and emotional environment. Is the student comfortable in the environment, or are you noticing the student's attention being drawn to other areas of the room? Is the student fairly calm, or quite nervous? A constant awareness about both environments will help you notice if there is something you need to redirect or modify. Merfeld notes that not all quirks need to be redirected, but they do need to be acknowledged. Avoid open-ended questions such as, "Is there anything you'd like me to move to make this room more comfortable for you today?" Such openended lines of questioning may encourage the student to make a wide variety of changes, thus taking valuable time. Therefore, be succinct with questioning; for example, "That chair is close to the piano, would you prefer that I move it to the corner of the room?," as opposed to "That chair is close to the piano, where would you like it?" Keep instructions simple and phrase requests in the positive.

The first meeting provides a time for the instructor to present materials and course information to the student in a nondistracting environment, arrange the student's lesson with considerations of transitions and optimum learning times, acclimate the student to the new environment, and, of great importance, it provides opportunity for the student and teacher to get to know one another and communicate.

THE FIRST VOICE LESSON/THE IMPORTANCE OF ASSESSMENT

A typical voice lesson scenario for a new student without a disability includes an introductory conversation welcoming the student, followed by generalities regarding

what repertoire has been studied, what the performing experiences include, what the student's goals are, and the administering of a syllabus or studio policy. In an effort to make the best use of lesson time, and to further evaluate a student's abilities, vocalizing and singing begin shortly thereafter. Many effective and productive first lessons have been taught in such a manner. The scenario, however, provides only a general snapshot of the student. Teaching a performer with special needs requires instructors to have a comprehensive understanding of the student's social behavioral and academic needs, thus providing the most appropriate and effective programming.⁴⁴

Completing an assessment form is a practical and time efficient tool that targets all students' learning and behavioral traits, and more accurately portrays a broad range of information. As presented in Table 1, the Vocal Student: Learning and Behavioral Traits Assessment includes specific categories for instructors to identify: Musical Skills, Language and Communication Skills, Behavioral Patterns, Physical Characteristics, Learning Style, and Student Preferences. Although some of the categories include standard information such as how many years a student played an instrument, or what foreign language a student studied, other categories include behavioral traits such as inattentiveness or lack of eye contact, that when identified, may provide input regarding a student's social or academic need.

Instructors should implement the Vocal Student: Learning and Behavioral Traits Assessment at the first lesson and continue to collect data throughout the semester. Data can be short statements as to what is happening in the lesson before the behavior occurs (Functional Behavioral Analysis),⁴⁵ as well as during the lesson (Formative assessment).

Because assessing student profiles requires considerable time, they are evolving documents. No student can be summed up in one lesson. The assessment is a valuable tool for voice instructors to gather information on student learning and perceptions in order to write clear goals and objectives for all students. The Vocal Student: Learning and Behavioral Traits Assessment is *not* intended as a diagnostic tool for the voice professional. Should repetitive or unusual behavior be observed, instructors should seek guidance from Disability Services, or designated professionals, and respect the

TABLE 1. Vocal Student: Learning and Behavior Traits Assessment

Student Name: _____		ID: _____	Course: _____
Email: _____		Phone Number: _____	
Data Sources: <input type="checkbox"/> Initial Student Meeting <input type="checkbox"/> Observation <input type="checkbox"/> Instruction			
Date: _____		Instructor: _____	
Musical Skills:			
<input type="checkbox"/> Sings	<input type="checkbox"/> Formal Study	<input type="checkbox"/> # of months/years _____	
<input type="checkbox"/> Plays piano	<input type="checkbox"/> Formal Study	<input type="checkbox"/> # of months/years _____	
<input type="checkbox"/> Plays other instrument	<input type="checkbox"/> Formal Study	<input type="checkbox"/> # of months/years _____	
<input type="checkbox"/> Theory training	<input type="checkbox"/> Formal Study	<input type="checkbox"/> Course Name _____	
<input type="checkbox"/> Reads music	<input type="checkbox"/> Very skilled	<input type="checkbox"/> Acceptable skills	<input type="checkbox"/> Needs
<input type="checkbox"/> Soprano	<input type="checkbox"/> Alto	<input type="checkbox"/> Tenor	<input type="checkbox"/> Baritone <input type="checkbox"/> Bass <input type="checkbox"/> _____
Language & Communication Skills:			
Native Language: <input type="checkbox"/> English		<input type="checkbox"/> Other _____	
Formal study # of months/years: <input type="checkbox"/> Italian		<input type="checkbox"/> German	<input type="checkbox"/> French <input type="checkbox"/> Latin <input type="checkbox"/> Other
Yes	No		
<input type="checkbox"/>	<input type="checkbox"/>	Normal verbal communication, age and situation appropriate	
<input type="checkbox"/>	<input type="checkbox"/>	Normal voice prosody (inflection, intonation)	
<input type="checkbox"/>	<input type="checkbox"/>	Normal fluency (no stuttering, pauses, or difficulty retrieving words)	
<input type="checkbox"/>	<input type="checkbox"/>	Relevant speech (ability to change topics & carry on a conversation)	
<input type="checkbox"/>	<input type="checkbox"/>	Normal Reading and writing abilities, if applicable	
Comments: _____			
<i>Indicate those traits that may contribute to a student's academic and social challenges</i>			
Behavioral Patterns:		Physical Characteristics:	Learning Style:
<input type="checkbox"/> Interpersonal skills (how a student engages with others or in activities)		<input type="checkbox"/> Physical size (small, average, large)	The way a person approaches a task and learns information from the environment.
<input type="checkbox"/> Eye Contact (lack thereof or inability to understand non-verbal communication)		<input type="checkbox"/> Gross motor skills (unusual gait, awkward, clumsy, jerky movements)	<input type="checkbox"/> Long- and short-term memory (How the student memorizes quality and quantity of information both short term and long term)
<input type="checkbox"/> Impulsivity/Compulsivity		<input type="checkbox"/> Fine motor skills (difficulty with grasping, writing ability, playing an instrument)	<input type="checkbox"/> Part-to-whole learning vs. whole-to-part learning (Does the student grasp concepts first and then the facts or details//Does the student memorize facts without necessarily understanding the basis)
<input type="checkbox"/> Distractibility & Inattention		<input type="checkbox"/> Hearing	<input type="checkbox"/> Work habits (arrives in class on time, participation, volunteers in class)
<input type="checkbox"/> Excessive movement		<input type="checkbox"/> Vision	<input type="checkbox"/> Strategies—rules or techniques the student uses to manipulate, store and retrieve information
<input type="checkbox"/> Attention seeking and avoidance behaviors		<input type="checkbox"/> Handedness	
<input type="checkbox"/> Sense of humor (interprets words or phrases literally/ jokes are not understood)		<input type="checkbox"/> Sensory Sensitivities (hyper- and/ or hyposensitivity to Sound/Taste/Smell/Visual/Tactile Sensations)	
<input type="checkbox"/> Executive function (planning, organizing, shifting attention, multitasking)		<input type="checkbox"/> Vestibular and Proprioceptive input (one's sense of balance, knowing where one's body is in space, speed and direction of movement // body awareness, information about where a certain body part is and how it is moving, posture, body alignment)	
<input type="checkbox"/> Stressors (high levels of stress and anxiety)		<input type="checkbox"/> Mood swings/depression	
<input type="checkbox"/> Environmental predictability (student's need for structure)			
<input type="checkbox"/> Theory of Mind deficits (the ability to pick up and act on assumptions)			
<input type="checkbox"/> Special interests or Intense preoccupations			
STUDENT PREFERENCES:			
<input type="checkbox"/> PHYSICAL ENVIRONMENT:			
<input type="checkbox"/> EMOTIONAL ENVIRONMENT:			
Comments: _____			

confidentiality of the student. Instructors should not contact the parents, nor ask the student to disclose an assumed disability. Collected data and observations, however, may serve as useful tools to professionals when identifying students who may have hidden disabilities that affect academic and vocal success.

VOICE TRAINING FOR STUDENTS WITH ASD

“Feel the Breath”/Sensory Integration Dysfunction

Teaching voice lessons often has a physical component to instruction. When teaching breath support, for example, an instructor may place his or her hands on the student’s abdomen or around the ribcage in order for the student to feel an expansion upon the inhalation, and to raise body awareness. An instructor also may gently alter the position of a student’s neck to release tension and encourage freedom when teaching body alignment.

Instructors should note that sensitivity to specific types of touch or tactile experiences occurs in over 50% of individuals with AS (Sensory Integration Dysfunction). There can be extreme sensitivity to a particular type of touch, the degree of pressure, or the touching of particular parts of the body. Everyday gestures of affection, a reassuring touch on the forearm or an embracing hug may not be perceived as a pleasant sensation.⁴⁶ Dr. Stephen Shore describes the senses of an individual on the autistic spectrum as being turned up “too high” or “too low,” with a substantial amount of data through the senses being distorted.⁴⁷ This is not to say that all students with AS are resistive to physical contact and comfort; many are affectionate while others are less so.⁴⁸ Nonetheless, it is important to observe student behavior and level of comfort prior to “hands on” teaching. Most importantly, communicate clearly with an AS student so that a new sensation is not a total surprise and likely to elicit a startled reaction.

Singing with Movement/The Hidden Senses

The use of movement in the voice lesson can be an effective teaching technique used to transfer abstract concepts of music and voice pedagogy to a physical, tangible rehearsal activity for singers.⁴⁹ Movement can be implemented as a central means to developing rhythmic

skills, unlocking the power of the body and breath, releasing tension that is sometimes brought on by singing, and creating a greater sense of body awareness.⁵⁰ For example, to fine tune rhythmic skills a singer may tap the sixteenth note pulse on his chest while continuing to sing the phrases, or to release any unwanted tension in the sound the singer may slowly *plié* when approaching a high note. Likewise, many movement-based methods are used in voice lessons, such as Alexander Technique (a method for retraining movement and postural habits in order to decrease compression stress and increase ease of movement),⁵¹ or The Feldenkrais Method (a self-discovery process using movement. Its aim is to produce an individual organized to perform with minimum effort and maximum efficiency).⁵²

Students with AS may be challenged when attempting to incorporate movement with or without singing during the lesson time due to significant impairments in movement performance and sensory processing, including pervasive deficits and delays in vestibular and proprioceptive senses.⁵³ These two senses are often referred to as the “hidden senses” since they are not among the familiar five: taste (gustatory), touch (tactile), smell (olfactory), hearing (auditory), and visual. Vestibular senses assist with movement, posture, vision, balance, and coordination of both sides of the body. Proprioceptive senses inform a person as to where his body parts are in space and the appropriate amount of force needed to perform an activity. Therefore, the fine motor skills (handwriting, buttoning, tying shoes) and gross motor skills (throwing, catching, sitting comfortably) of individuals with AS are affected. Students may be viewed as clumsy or klutzy, and eye-hand coordination can be difficult.⁵⁴ Evidence also suggests that older individuals with ASDs may have a difficult time learning complex, multistep motor skills, and movement goals. Voice instructors who use dance should be aware that interpretive, make believe, and play represent an area of special weaknesses.⁵⁵

Thus, if a student has difficulty improving motor performance despite continued practice or repetitions, highly explicit forms of guidance such as visual modeling or physical guidance (hand on hand instruction, along with brief verbal explanation of each step with the entire activity), may be helpful. Likewise, it is important to emphasize the end goal of any task by providing immediate verbal or visual feedback when the goal is achieved.⁵⁶

Gesture and Emotion/Lack of Perspective

In order to fully and compellingly communicate the essence of a song to an audience, singers do not rely solely upon solid and beautiful vocal production; they do rely heavily on means of nonverbal communication, including gesture and facial expression.⁵⁷ These means of nonverbal communication, however, do not function independently, but rather they work in tandem with the body. In the article, "Learning to Portray Emotion," Richard Miller explains the concept.

Body awareness is an absolute essential for anyone who wishes to publicly express an idea, an emotion, or a characterization. A singer, regardless of basic corporeal construction, needs to feel comfortable with his or her external body frame when in the public. One must know what message the body is sending so that it not be out of synch with what the intelligences and the emotions are portraying.⁵⁸

Linguistics experts state that 60–70% of our communication is relayed nonverbally through the face and the body.⁵⁹ Students with HF-AS, however, are challenged or even unable to read emotions through body language, facial expression, and voice inflections, and often have difficulty maintaining eye contact. Likewise, they have problems understanding perspectives of others, having difficulty that the thoughts, beliefs, and intentions of others may be different than their own.⁶⁰ These same individuals who may seem socially detached are also emotionally vulnerable and desire friendships. Likewise, they are especially sensitive to criticism.⁶¹

In order to assist the HF-AS student in the voice studio, instructors should maintain a list of the individual's strengths and interests, and develop those areas.⁶² Doing so will help build confidence, keep the student on task for a longer period, and invite an opportunity for additional learning. For example, a voice student may enjoy and be very adept at pronouncing and singing Italian text, but deficient when it comes to expressing the emotional subtext in facial expressions. People who do not know the student may comment that the student looks "weird" and sings with a vacant "deer in headlights" look. To assist the student, the instructor first could draw attention to the text—inflection, pronunciation, and translation—and then slowly begin associating the text with emotions. As HF-AS students benefit with the

aide of concrete visual approaches,⁶³ creating labeled emotion cards (age and level appropriate) that include photographs of individuals portraying an expression is an effective way to associate the text with an emotion. The cards can serve as a visual aid for students to try and imitate. In studio class, instructors also can explain what the facial expressions and body language of other singers are depicting. Photography and videotaping also can be excellent tools for training singers.⁶⁴ Whatever approach is taken, it is important that modeling and oral instructions are broken into small steps (parts-to-whole verbal instruction), as HF-AS students tend to overfocus on details.⁶⁵ Attempt to maintain a routine, and vocalize clear beginning and endings.⁶⁶

The Length of the Lesson/Executive Functioning

Singing and the study of voice require the ability to shift attention during the activity and focus on new information due in part to the multifaceted nature of the art form. During a one-hour lesson vocalists may sing through repertoire, refine diction, fix difficult rhythms and pitches, address technique, and interpret text with the exercises occurring independently as well as simultaneously while singing. Individuals with AS, however, can have difficulty "changing track" while engaged in a "train of thought."⁶⁷ Individuals with AS have impaired executive function. Executive functions consist of a broad group of cognitive strategies, which include working memory (recalling and manipulating information), planning, mental flexibility, task initiation and performance monitoring, self-regulation, behavior inhibition, and attention skills.⁶⁸ Likewise, executive dysfunction is not exclusive to ASD but also can be seen in individuals with Obsessive Compulsive Disorder (OCD), Attention Deficit Disorder (ADD), Attention Deficit Hyperactivity Disorder (ADHD), Giftedness, and Tourettes.⁶⁹ Impaired executive function may include the following:⁷⁰

- Displays restricted interests.
- Engages in repetitive behaviors.
- Resistant to change, lack of mental flexibility, fixed ideas.
- Fails to learn from mistakes.
- Ineffective problem-solving strategies while simultaneously refusing to consider the recommendations of peers, parents, and/or teachers.

- Difficult to generate new thought or to use different words phrases.
- Unable to control and appropriately express emotions.
- Self-stimming behaviors (hand flapping, spinning).
- Difficulty starting and maintaining conversations.
- Impulsive in school work and social situations.
- Exceptional long term memory, able to recite the dialogue of a favorite film, but has difficulty with the mental recall and manipulation of information relevant to an academic task.
- Forgets a thought quickly; notorious for interrupting others.
- Difficulty with time management, prioritizing, organization.
- Often poor attention skills.
- Difficulty switching attention from one task to another.

Voice instructors aspire to create a productive and stimulating learning environment. They are hopeful that students will enter into the voice studio engaged, well rehearsed, prepared, with a positive attitude, and open to instruction. When a student continually doesn't meet expectations, challenges authority, or doesn't seem to care, it is natural for an instructor to become angry and resentful. Poor executive functioning skills in students, including nondisabled (neurotypical) individuals, result in great frustration for many voice instructors, for instance: the student who constantly arrives late to lessons without music; the student who wilts with the slightest criticism regarding their vocal production; the student who is a "know it all" and challenges instruction; the student who continues to sing the same rhythm incorrectly every lesson; and the student who enters the studio seemingly unengaged and unfocused. In some cases, the instructor may become so dissatisfied with the student's progress and attitude that a request is made to move the student to a different studio. It is vitally important, however, that instructors consider and embrace the possibility that they may have exceptional learners in their voice studio. Just as every voice is unique, so too is every individual. Not every great musician is going to fit in the same box. With a greater awareness of student needs, and assuming a very patient, egoless, and understanding approach to teaching, growth for both parties will be inevitable. This does not imply, however, that instructors need or should

make excuses for student shortcomings. All seasoned instructors know that occasionally students just do not do the work, and therefore should be held accountable. Rather, instructors are urged to be aware, to assess, to observe, and to be open minded to what may be a repetitive pattern of behavior.

In order to assist students with executive functioning challenges, instructors may need to alter the pace of the voice lesson to accommodate the needs of the student. It could be that a continuous one-hour lesson is too overwhelming, and the student would be better suited to a break at the halfway point; or perhaps two thirty-minute sessions twice a week. Additionally, the studio teacher may need to provide multiple verbal prompts when an activity is going to change, and allow extra time to finish the task.⁷¹ A visual clock or a timer that displays how much time is left in the class period is helpful to the AS student who has difficulty perceiving a sense of time.

Imagery in Singing/The Process of Communication

In the teaching of singing, voice instructors often use imagery—comparative language, simile, metaphor, or a picture, which may or may not reflect physical reality—when addressing vocal technique.⁷² Imagery in singing includes phrases such as, "Imagine you are driving a car in first gear." This driving image may be used, for example, with regard to the changing of vocal registers; one can describe the chest voice or lower register sensations as the equivalent as the first gear of a car.⁷³ Other images include but are not limited to, "smell the rose," "sing into the mask," "keep your eyes up," "sing on the breath," "create a round sound," "bite into the tone," "get it out of the throat," or "your voice is breaking." Then there are also the colloquial expressions that are often used, such as, "You're pulling my leg, has the cat got your tongue?," and "I've changed my mind." To a student with ASD who interprets information literally, such imagery and colloquialisms can cause great confusion. To "get it out of the throat," for example, may imply to the student that he has something caught in his throat that needs to be removed, instead of the intended meaning of allowing the sound to freely flow. "To smell the rose" may encourage the student to smell an actual rose, instead of taking a relaxed inspiration through the nasal passages prior to the onset of sound.

Individuals with HF-ASD have an underlying impairment in the process of communication.⁷⁴ Hans Asperger described problems with conversation skills including the “melody” or flow of speech, and an unusual developmental history for language, such as the early or late development of speech. However, unlike other ASDs, by the age of five, children with Asperger’s syndrome do not have a general delay in language, and many children have the tendency to talk like an adult with an advanced vocabulary using complex sentences.⁷⁵ Although HF-AS students have fairly good speech that often contributes to their high level of functioning, the communication patterns seen in AS have an altered quality.⁷⁶ In his book, clinical psychologist Dr. Tony Attwood provides comprehensive information regarding language peculiarities for students diagnosed with Asperger’s syndrome.⁷⁷

- The melody or flow of speech (unusual pitch, stress, and rhythm).
- Early or late development of speech.
- Young children display advanced vocabulary and complex sentences.
- Pedantic language (minute details).
- Odd prosody, peculiar voice characteristics—flat vocal tone that is perceived as monotonous.
- Speech characteristics can include problems with volume, being too loud or too quiet for the context.
- Fluency can be too rapid especially when talking about a special interest, or ponderous when the person has to think what to say.
- Conversation can have breakdowns, and a lack of eye contact.
- Interrupts and talks over the speech of other people.
- Frequently change topics.
- Vocalizes their thoughts or comments on their own action without a listener.
- Impairments of comprehension including misinterpretations of literal/implied meaning.
- Talking too much or too little.
- Lack of cohesion to conversation.
- Nonconventional ways to approach a conversation such as irrelevant comments.
- Often perceived as poor listeners.
- Their comments are often interpreted as offensive, impolite, matter of fact, or rude.
- Idiosyncratic use of words.
- Repetitive patterns of speech.

- Certain sounds or meanings of a word provokes great laughter or giggling.

Also, persons with HF-AS exhibit Theory of Mind deficits, or the ability to pick up and act on assumptions.⁷⁸ Those of us with typical theory of mind and strong central coherence can gather information from relatively few words or nonverbal cues regarding accurately reading another person’s intention and interpreting the big picture. Students with HF-AS lack the ability to read between the lines. Nonverbal cues, such as giving the student a meaningful look, do not carry the same load of information for someone with ASD for someone without it. Likewise, statements such as, “You get what I mean,” or “The way you just sang that phrase will knock someone’s socks off!” will be unclear to the student.

In order to communicate information clearly, teachers need to be aware of the student’s propensity to make a literal interpretation, and to stop to think how the comment or instruction could be misinterpreted or cause confusion. Whenever a literal interpretation occurs, it is important always to explain the hidden intention or full meaning.⁷⁹ Regarding the teaching of imagery in singing to nondisabled individuals, voice pedagogue Richard Miller stated,

The reluctant student may be perfectly right to resist the pedagogy being presented because it is based on illogical verbiage . . . unfortunately, much studio imagery remains a mystical language which the student is unable to penetrate . . . for these reasons imagery should not be one of the initial steps in teaching the technical coordination of the singing instrument. Singing with its complex elements of vocal timbres, text, and the whole ambience of performance must be very personal.⁸⁰

Obviously, Miller’s quote can provoke contrary positions to the use of imagery in the voice studio, but for students who are diagnosed with HF-AS, Miller’s statement is perfectly suited.

It is essential that teachers of singing develop communication skills including prosody, body language, and facial expressions that are clear and consistent with the topic of conversation or lesson. Be prepared to repeat what you say, orally or in writing. Speak slowly enough so that the student may process all channels of communication.⁸¹ Advanced uses of language, such as irony, teasing, sarcasm, and figurative speech, should

be avoided.⁸² Imagery should be used only with careful consideration.

Finally, teachers should not be offended by the direct honesty of the person with Asperger's syndrome, and should be aware that the person is not naturally talented in the art of conversation.⁸³

Children with AS may have difficulty understanding that their behavior (both actions and words) can affect how others think or feel. They don't appear to understand that their words or actions can make someone feel different from their own emotional state. They are not purposefully trying to hurt others. They are factually relating information without regard to the other person's feeling.⁸⁴

Studio Time/Social Supports

Often, voice lessons at the collegiate level are accompanied by a studio or group classroom experience. The studio time provides vocalists an opportunity to perform repertoire in front of peers, to discuss voice pedagogy and technique, to begin to acquire the skills and diagnostic tools necessary for teaching and self-assessment, and to have a chance to collaborate and socialize.

For students with HF-AS, music can provide meaningful contact and positive social experiences with peers who have appropriate social behavior.⁸⁵ Instructors should also be encouraged to organize a few social gatherings with the studio, such as a studio cookout, a group trip to view an opera off campus, or a meeting at a coffee house. Planned in advance, such gatherings can boost the positive social relationships for students with HF-AS, and help in those early stress filled days of school.⁸⁶

It also may be advantageous to identify a student from your studio who would work well as a "peer buddy." HF-AS students often remove themselves from social situations, and avoid small talk, because they consider themselves or have been told they are "odd, strange, or awkward." HF-AS students, however, *do* want to forge relationships with their peers, but it is simply a matter of not knowing how, experiencing difficulty initiating conversations with other students. Select a peer who exhibits qualities of maturity, flexibility, openmindedness, and a sense of humor. Meet with the selected peer prior to forging the "buddy" system. Then, have the peer and the exceptional student meet. The instructor should assess the emotional environment: Do the students seem

at ease? Does it appear that the relationship will result in a positive experience?

CONCLUSIONS

Studio voice instructors will encounter or have already had the experience of instructing students with hidden disabilities or of teaching voice lessons to individuals on the autistic spectrum. Success for students with ASD is incumbent upon voice teachers being educated on the disability. They must understand the most effective teaching methods for those individuals whose unique learning styles require necessary accommodations and modifications in curriculum and instructions to help them fulfill their potential. By providing ongoing assessment of students' social, behavioral, and academic needs, voice professionals are better equipped to aid in their academic and vocal success. Likewise, with an awareness of the challenges exceptional students face related to (1) sensory integration dysfunction, (2) impairments in movement performance and sensory processing, (3) the lack of understanding the perspective of others, (4) executive functioning, (5) communication, and (6) appropriate social behaviors, educators can further tailor the voice lesson instruction.

Such a distinctive list of challenges and communication idiosyncrasies may cause a voice teacher to wonder how it is even possible for a student with HF-ASD to pursue voice instruction. Rest assured, however, these students have many talents and abilities that complement the art of singing. Exceptional students can acquire the ability to speak multiple languages with word stress and dialect much like a native speaker, an obviously useful skill. Students may also have an exceptional long term memory, and are perhaps able to recite the entire dialogue of a favorite movie or opera.⁸⁷ Students may also have a passionate commitment to an idea, insight, and originality in tackling problems, and a dogged pursuit of perfection in their given area. Those diagnosed with HF-AS exhibit normal or even high IQs; many are so gifted they go on to high levels of achievement as adults, excelling in areas like math and physics.⁸⁸ Students who are gifted learn concepts quickly, and have a limitless capacity for creativity. By embracing a mindset of inclusivity, providing modifications and accommodations as needed, and encouraging musical

opportunities for exceptional students to develop their strengths and vocal abilities, all students and instructors in the studio will reap great benefits. Further, as voice instructors and educators, it is our responsibility to be open to the possibility of exceptional students in the studio, to respect the student, and assess how to engage and instruct that student more effectively. Patricia Romanowski Bashe states, "How easily someone learns these skills has virtually *nothing* to do with how smart they are, but *everything* to do with the skill and perseverance of their teachers."⁸⁹

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Ann Belluso Cravero, acclaimed mezzo soprano, has been heard on stages in Italy, China, and throughout the United States, including Weill Recital Hall in Carnegie Hall. She debuted at Symphony Hall in Chicago as the 2019 Winner of the American Prize in Oratorio, and performed as soloist of Mahler's 2nd Symphony with soprano Michèle Crider (Hancher Auditorium). Cravero's "strong" portrayal of

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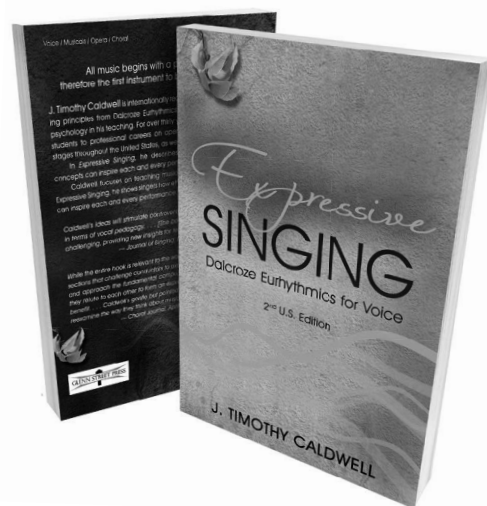
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