

Teaching Strategies for Neurodivergent Students in an Applied Lesson Environment

Clair Cangialosi, Winchester, VA | Keith Sorrels, Murfreesboro, TN

We begin with a few assumptions: You care about your students. You care about the oboe or bassoon. You care about music and musicianship. You practice a pedagogy which seeks to elevate and empower these things.

In any pedagogical system, a plan exists that governs the material and methods taught, a timeline for completion, and proposed student outcomes. The plan is purposely general, addressing the most likely, preferred results for a majority of students. In an applied lesson environment, one can easily understand the need for additional flexibility beyond a pre-established pedagogy. It's obvious: every single one of your students is their own person, and brings to lessons unique experience, perspective, and needs. We additionally assume you want your students to continue being themselves—albeit with the knowledge and skills acquired through rigorous study. The content of this article is primarily for teachers of adult students (ages 18 and above) in a college or private setting, though the principles discussed within are readily applicable to younger students. We chose to focus on adult students because most of the published research available at the time of writing is centered on teaching children. There are far fewer resources available which discuss learning differences for adults.

You do not need much teaching experience to know that what works well for one student may not work well for another. As teachers, we rely on our own experience—what worked well for ourselves as students, practice strategies that are effective for us, knowledge gained from years of performing, and more. What happens when you encounter a student who thinks, acts, and learns differently than you do? Once identified, how can you help a neurodivergent student find success in a neurotypical world? Good pedagogy is flexible enough to address the needs of a wide variety of students. Applied music lessons provide

an opportunity to form strong interpersonal connections with students and gain insight into their unique learning process. Music educators can better equip themselves to support their neurodivergent students by working to understand the academic and social challenges that often accompany neurodiversity, and subsequently to utilize neurodivergent-inclusive accommodations and teaching strategies.

This article draws on the authors' lived experience as neurodivergent artist-teachers, as well as existing pedagogical resources from the music and education fields. Focusing on ADHD (Attention Deficit Hyperactivity Disorder), Autism, and Dyslexia, we will define key terms related to neurodiversity, provide examples of music and double reed-specific challenges and strengths, and discuss specific teaching strategies and accommodations designed to help overcome barriers to student success.

We are not medical or mental health practitioners, and this article does not seek to dispense any medical or psychological advice. We encourage you and your students to consult the appropriate licensed professionals as needed.

What is neurodiversity?

Neurodiversity is defined as natural neurobiological differences in sensory processing, social comfort, motor abilities, and focus that impact the way individuals perceive and relate to the world around them. According to Harvard Health Publishing, neurodiversity is “the idea that people experience and interact with the world around them in many different ways; there is no one ‘right’ way of thinking, learning, and behaving, and differences are not viewed as deficits.”¹ While the term can be applied broadly to all people, it is most commonly used in reference to specific neurological or learning disabilities such as attention-deficit hyperactivity disorder (ADHD), autism, developmental speech

disorders, dyslexia, dysgraphia, dyspraxia, dyscalculia, dysnomia, intellectual disability, obsessive-compulsive disorder (OCD), schizophrenia, and Tourette syndrome, among others.

This is a non-exhaustive list because we could include any neurocognitive profile that is not “neurotypical.” Neurotypical is a way of describing an individual without the aforementioned neurological or learning disabilities. Though difficult to calculate, the United States Centers for Disease Control estimates 15–20% of the adult population may be neurodivergent. Neurodiversity as we know it today is still a relatively new concept. The term arose from the Neurodiversity Movement, a social justice movement led by autistic self-advocates in the 1990s, that sought to end the discrimination that many neurodivergent people faced in society.² This movement developed the Neurodiversity Paradigm, a framework for understanding there is no universal normal way of thinking or being. Conversely, the pathology paradigm perspective compares everyone to a neurotypical baseline, where deviations are seen as negative traits in need of correction. Natural neurobiological differences should be acknowledged and valued.³

In an educational setting, neurodivergence is often considered only by the challenges it presents from an external, neurotypical, viewpoint. Perhaps the word “typical” is problematic. We acknowledge that it makes sense for our world, social structure, expectations for behavior, education, professionalism—and yes, even musicianship—to have a basis in what is “typical.” Neurodiversity can and does often conflict with our typical structures and expectations. For example, neurodivergent students may struggle with social skills and executive functioning including, but not limited to adaptable thinking, planning, self-monitoring, self-control, working memory, organization, time management. However, when the learning process is viewed through the lens of the

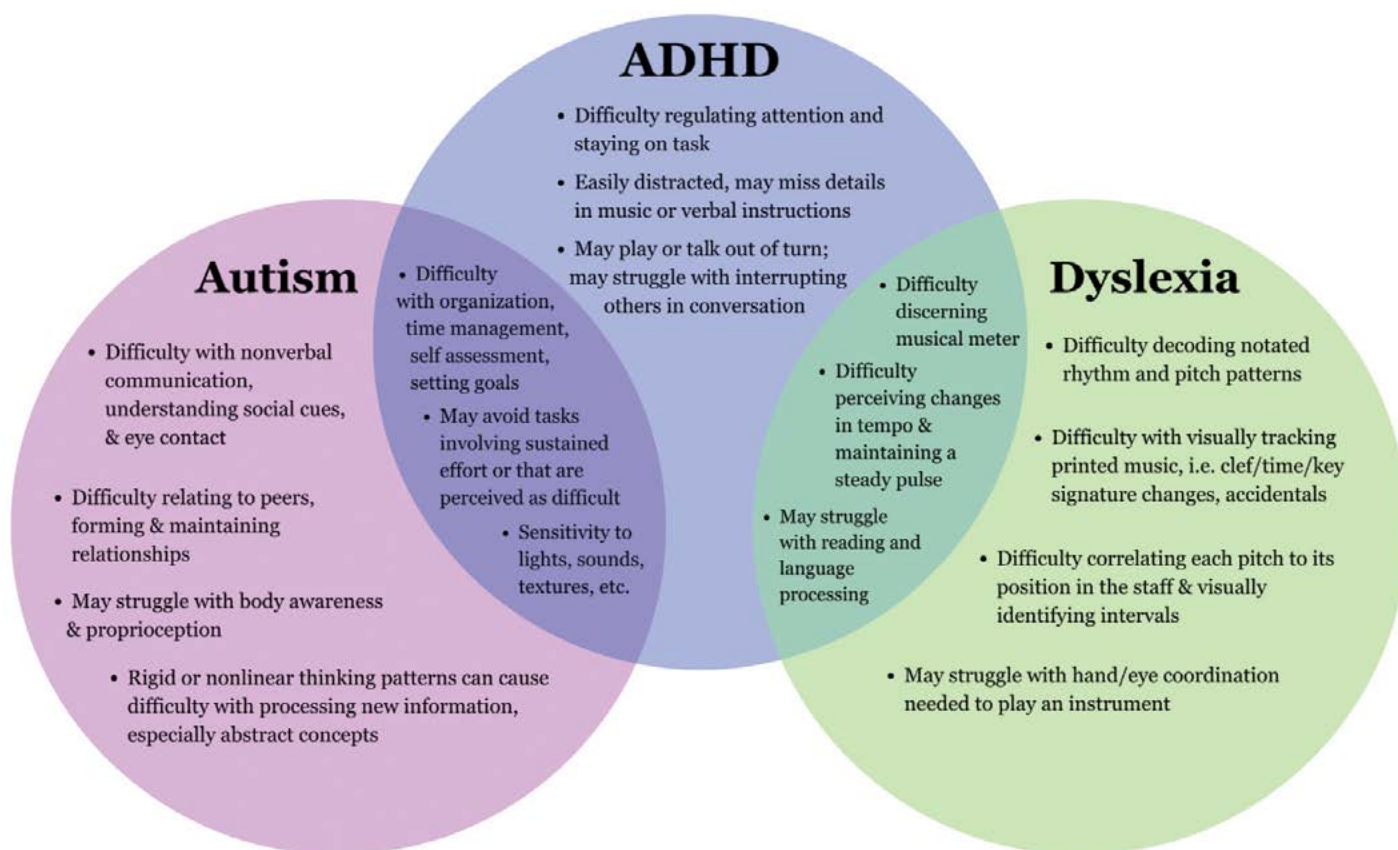


Figure 1. Chart (by Clair Cangialosi) comparing difficulties associated with ADHD, Autism, and Dyslexia as they relate to music learning. Note the significant overlap between ADHD and autism and between ADHD and dyslexia. (Taken from Moxness, “Universal Design for Voice Teaching,” 3–4; Tetzloff, “Minimize Barriers, Maximize Success,” 22–24; and Steiner, “Neurodivergences in the Voice Studio,” 14–15. For full references see Suggestions for Further Reading.)

neurodiversity paradigm, unique neurodivergent strengths such as “out-of-the-box” thinking, altruism, pattern recognition, and hyperfocus, are brought to the forefront. Many neurodivergent people find their own definition of success. We can help support and accommodate such students in our studios, empowering them to be their authentic selves.

How do you apply this knowledge in your teaching? How do you determine what is neurotypical and neurodiverse? What if I suspect neurodiversity but do not have confirmation from the student? What if the student acknowledges a diagnosis but fails to follow through on treatment strategy? What if the student outwardly appears neurotypical, but has not yet connected with or acknowledged their neurodiversity? Adam Moxness offers a guiding principle:

To teach learners effectively, educators must understand how to engage the

way their students think. It’s important to note that neurodiverse students interpret the world differently than their [neurotypical] peers, and therefore, it is crucial to develop new access points to motivate learning.⁴

Whether or not a student is aware of their neurodiversity, teachers are keen observers of behavior, habits, and attitudes. Many of the difficulties shown in Figure 1 can also be experienced by neurotypical students. However, neurodivergent students may experience these difficulties with more frequency and severity than their neurotypical peers. An effective teacher must consciously decide to pay attention to what their student does and says. Additionally, an effective teacher must not take a student’s progress personally. Alex Vanet refers to this attitude as “unconditional positive regard.” This approach entails intentionally building connections with the student as they are,

outside of the context of their instrument or musicianship. For the student, this helps to build a sense of trust, a vital component of the learning process. For the teacher, it offers insight into where the student is coming from and what barriers may be standing in their way.⁵ This perspective, a willingness to accommodate, and a toolkit of applicable strategies will contribute to successful outcomes.

To more clearly understand how the symptoms of ADHD, autism and dyslexia can impact music learning, let’s look at the experiences of three neurodivergent double reed students, Jimmy, Stacy, and Grover. These student profiles depict some of the most common traits associated with ADHD, autism, and dyslexia, but it is important to note that not every neurodivergent person shares these experiences.

Jimmy, ADHD

In high school, Jimmy was the section leader of their school band and played principal oboe in their youth orchestra. They showed a promising aptitude and were encouraged to study music in college. They practiced some, but mostly winged it through high school and did well enough. Now, in college they are on their own for the first time: new environment, new peers and teachers. Expectations are higher. All the structure that was provided and relied upon in high school is gone. It feels like they're constantly running late, forgetting their reeds or music, and often find themselves getting distracted in rehearsals. Consistency with practice seems impossible, even when they manage to get into a practice room, it's hard for them to tell if they're actually making any progress. They desperately want to do well, but it's all so frustrating.

Trait	Impact On Music Learning
Hyperactivity and/or inattention	<ul style="list-style-type: none"> • Difficulty sitting still or staying on task in rehearsals and lessons • Easily distracted, may miss details in music or verbal instructions
Impulsivity	<ul style="list-style-type: none"> • May play or talk out of turn; may struggle with interrupting others in conversation
Executive Dysfunction (adaptable thinking, planning, self-monitoring, self control, working memory, organization, time management)	<ul style="list-style-type: none"> • Difficulties with organizing materials, i.e. tools, music, pencil, reeds • Difficulties with working memory—may struggle to remember musical details (key/time signatures, etc.) • Difficulty with time management, i.e. structuring practice time, arriving to rehearsals on time
Emotional Dysregulation	<ul style="list-style-type: none"> • May experience intense exaggerated emotional pain in response to rejection or failure (Rejection Sensitive Dysphoria or RSD) • May avoid challenges or become frustrated easily • May resist external demands or expectations or tasks that cause discomfort (Pathological Demand Avoidance or PDA)
Sensory Processing Differences	<ul style="list-style-type: none"> • Difficulty discerning complex musical stimuli • Difficulty analyzing and assessing their own performance • Sensitivity to light, sounds, tactile feedback, scents, etc.

Figure 2. Common ADHD traits and their impact on music learning. (Taken from Tetzloff, “Minimize Barriers, Maximize Success,” 22–24).

Stacy, Dyslexia

Stacy has a great ear but struggles to read music with any degree of proficiency. She was previously able to learn by ear, but now in college she has too much music to learn for lessons and ensembles. Sitting in orchestra feels like being caught in a tidal wave. She can't figure out how her part fits in and the music flies by too quickly. She spends hours in the practice room each week working on the material for her lessons. At least there are recordings of her solo piece online so she can work out some of the rhythms by ear. Her etudes, on the other hand, are a disaster. The music is too crowded on the page, making it hard to tell what notes to play, let alone getting the right fingers down at the right times. If only her professor would play it so she could hear it first. Each week, her anxiety about sight reading gets worse and worse.

Trait	Impact On Music Learning
Auditory Processing Differences	<ul style="list-style-type: none"> • Difficulty discerning musical meter • Difficulty perceiving changes in tempo, meter, and rhythms aurally • Issues maintaining a steady pulse • May struggle with reading and language processing
Visual/ Spatial Processing Differences	<ul style="list-style-type: none"> • Difficulty decoding notated rhythm and pitch patterns • Difficulty with visually tracking printed music, clef changes, correlating each pitch to its position in the staff
Motor Coordination Issues	<ul style="list-style-type: none"> • May struggle with hand-eye coordination needed to play an instrument
Co-occurring Mental Health Issues	<ul style="list-style-type: none"> • Often prone to anxiety, depression, low self esteem • May struggle with “Learned Helplessness,” may avoid tasks perceived as too difficult.

Figure 3. Common Dyslexia traits and their impact on music learning (Taken from Steiner, “Neurodivergences in the Voice Studio,” 14–15).

Grover, Autism

Grover is playing second bassoon in orchestra. Leah is playing principal and often has suggestions for how the section can make improvements. She's funny and at times very sarcastic. After rehearsal, she says, "Grover! We sounded so good, like two wolves howling at the moon in the third movement." Presumably this was meant as a compliment, but Grover didn't understand. What does a wolf have to do with playing the bassoon? The music had nothing to do with outer space. He wishes that people would just say what they mean.

Trait	Impact On Music Learning
Social Communication Impairments (emotional intelligence, nonverbal communication, relational understanding)	<ul style="list-style-type: none"> • Difficulty with nonverbal communication, abstract imagery, atypical eye contact • May have difficulty relating in social situations, such as studio or reed-making class
Restricted Behavior Patterns (desire for sameness, routines/rituals, fixated interests, stimming, echolalia)	<ul style="list-style-type: none"> • May experience anxiety due to changes in routine • Difficulty with transitions between activities
Executive Dysfunction (adaptable thinking, planning, self-monitoring, self control, working memory, organization, time management)	<ul style="list-style-type: none"> • May struggle with planning ahead, goal setting, assessing and tracking progress. • May need more time to process and integrate new information, especially abstract concepts • May struggle with tasks requiring sustained effort
Sensory Processing Differences	<ul style="list-style-type: none"> • Sensitivity to bright lights, loud sounds (in rehearsals or the studio space) • May struggle with body awareness or proprioception

Figure 4. Common autistic traits and their impact on music learning (from Moxness, "Universal Design for Voice Teaching," 3–4).

Accommodations and Teaching Strategies

The following is a general discussion of applicable strategies for neurodiverse students. The five strategies draw on pedagogical approaches such as the Universal Design For Learning and Metacognitive Learning Strategies, as well as the authors' own experiences and those of other music educators. More information on these sources can be found in the Suggested Reading section below. Each strategy has multiple components. Readers are encouraged to pick and choose what works for their own circumstances. Christine McRitchie Pratt offers good advice: "It has been well said that if your pupil does not learn the way you teach, you must teach in the way they learn."⁶

1. Frontload expectations

- Be explicit about what you expect from students with regards to practicing, rehearsal preparation and reed making. While it is ultimately the student's responsibility, educators should consider that neurodivergent students

may need more support to develop an organizational system that works for them.

- Provide a sample reed-making timeline. If a student needs a new reed for the next lesson, how far in advance should they make a blank, clip the tip, and start scraping? How many days does the break-in process take?
- Ask about the student's workload and schedule. Encourage them to plan out their practice and reed-making time instead of cramming at the last minute. Joy Hoffman notes that many musicians with ADHD found success when they utilized tools such as alarms, calendar apps, and reminders to stay on top of their daily responsibilities.⁷
- Take time to make sure the student has everything they need (music, reeds, tools, water cup, pencil, etc.) at the beginning of a lesson. This helps build organizational skills, minimizes the need to stop to retrieve forgotten items, and ensures that both the student and teacher are on the same page about preparation.

- Guide the student to set short term goals (i.e. for the next lesson) and long-term goals (i.e. for the semester/year).

2. Use multi-sensory tactics to interact with material through multiple modalities

- Visual: Some students may benefit from marking their music in specific ways to help decrease cognitive load, thereby alleviating working memory issues. For example, create visual anchors by marking beat locations within a measure. Write in cues, break up rests, or notate any potentially confusing or unclear moments (see Fig. 5).
 - Define any tempo or expressive markings (especially foreign language terms). Draw the student's attention to any repeats, da capo, del segno, coda, etc. Highlight these items in the music as needed.⁸
- Auditory: Call & response patterns may be used to help students learn to recognize difficult rhythms aurally before decoding the notation (i.e.

doing the rhythm math). Provide high-quality recordings of repertoire, and demonstrate how to follow along while looking at the music. Record lessons and encourage students to listen to those recordings.

- Kinesthetic: Experiment without the instrument by moving to the beat; dancing; clapping, tapping, or speaking rhythms; sing for expression and/or pitch accuracy. Consider using a pulsing (vibrating) metronome such as the Peterson BodyBeat or Soundbrenner Pulse.
- Tactile: Finger notes while saying their names out loud to improve coordination and make connections between staff position and fingering. In reed making, touch the blades of the reed with the fingers to feel asymmetry in the scrape in addition to checking visually. Make or purchase an oversized model reed with anatomically correct topography.

Figure 5 consists of two parts, a) and b). Part a) is a musical score for the third bassoon part of Gustav Mahler's Symphony no. 1, movement 1, measures 1-127. It features a tempo of 54 and a 'Langsam. Schleppend.' (slow, dragging) character. The score includes various dynamics like 'Piu mosso, accel.' and 'molto rit.' and includes performance instructions such as 'Allmählich und merklich in das Hauptzeitmass übergehen'. Part b) shows the accompaniment for 'Sonatine for Bassoon and Piano' by Alexandre Tansman, measures 92-100. It features a tempo of 84 and a 'Im Anfang sehr gemächlich' (at first very slowly) character. The score includes dynamics like 'p' and 'pp' and includes performance instructions like 'Solo ad lib.'.

Figure 5. Adding visual anchors: a) using cues to break up long rests in the third bassoon part of Gustav Mahler's Symphony no. 1 (Kalmus, 1962) movt 1, m. 1-127; b) marking beats and notating the rhythm of the accompaniment, *Sonatine* for Bassoon and Piano by Alexandre Tansman (Eschig, 1952), movt 3, m. 92-100.

3. Use Segmentation

This can be especially useful for students struggling with sensory processing differences or those prone to avoidance. When working through difficult or new repertoire, a Whole-Part-Whole approach can be helpful for preventing overwhelm and increasing accuracy. This can also be helpful for determining manageable practice goals for the following lesson.

- Chunking: Break repertoire down into smaller, more manageable pieces.
 - Movement → section → phrase → measure → beat
 - Favorite section → least favorite
 - Hardest section → easiest section

- Layering: Isolate each element of the music separately with the goal of developing fluency in one element at a time before combining.⁹ When using layering, each element does not have to be learned in the order listed below, and not all elements may need to be isolated in every piece.
 - Rhythm
 - Intonation/melody
 - Technique/fingering choice
 - Expression

Figure 6 consists of three parts, a), b), and c). Part a) shows the first measure of 'Adagio con espressione' from 'Forty-Eight Famous Studies for Oboe, op. 31, No. 1' by Franz Wilhelm Ferling. It features a tempo of 92 and a 'p' dynamic. Blue brackets indicate phrase-level chunks, and red brackets indicate sub-phrase-level chunks. Part b) shows measures 1-2 of the bassoon part of 'The Rite of Spring' by Igor Stravinsky. It features a tempo of 'Lento tempo rubato' and a 'Solo ad lib.' instruction. Part c) shows an example of creating a Melody/Fingering Choice Layer by removing the excerpt's notated rhythms.

Figure 6. Chunking vs. Layering: a) Phrase-level chunks (indicated with blue brackets) and sub phrase-level chunks (indicated with red brackets) in No. 1 from *Forty-Eight Famous Studies for Oboe*, op. 31 by Franz Wilhelm Ferling (Southern Music Company, 2002), m. 1-10; b) Measures 1-2 of the bassoon 1 part of *The Rite of Spring* by Igor Stravinsky (Moscow: Muzyka, 1965), m. 1-2; c) An example of creating a Melody/Fingering Choice Layer by removing the excerpt's notated rhythms.

4. Consider Modeling

- Play for and with your students to help develop their concept of sound and style. In doing so, talk about what they hear or see. Record lessons and encourage students to listen to those recordings.
- Model professional behaviors and expectations as a matter of routine. Foster an inclusive studio environment.
- Demonstrate a variety of practice techniques including listening and score study. Openly discuss “mental practice,” or “thinking about the instrument away from the instrument.”
- Be mindful of the language you use when providing feedback as this can become entrenched in a student’s inner monologue outside of lesson time. Choose positive reinforcement.

- Help students cultivate a growth mindset by acknowledging accomplishments and emphasizing the role of persistence in the attainment of success.

5. Find the “path of least resistance” to the way in

- Use scaffolding, pedagogical “training wheels,” when introducing complex concepts or tasks. Presenting new concepts in an organized manner helps build on a student’s prior knowledge.
- Allow extra time. Students with dyslexia and other sensory processing differences may need extra time to learn new music or process instructions in a lesson, classroom, or rehearsal.
- Preferentially default to using editions of scores with ample blank space and clean notation. Stephanie Tetzloff

suggests using a tablet equipped with ForScore (or a similar program) to quickly and easily change the appearance of sheet music or use color to mark specific elements.¹⁰ See Figure 7.¹¹

- Some students may benefit from an “everything, everywhere, all at once” approach and will resist scaffolding. Playing along with accompaniment tracks, professional recordings, or your own lesson recordings may help acclimate the student to the full aural landscape of the repertoire.
- Provide instructions and feedback using multiple modalities such as spoken, written, or recorded where applicable.

Figure 7 consists of three musical staves labeled a), b), and c).
 a) Labeled 'a) MODERATO. (♩ = 84.)' and 'Nº 1.' It shows a piano score with a treble and bass clef. The notation is dense with many accidentals and slurs. The dynamic marking is *pp*.
 b) Labeled 'b)' It shows the same musical piece as in a), but the notation is significantly decluttered, with fewer accidentals and more space around the notes. The dynamic marking is *p*.
 c) Labeled 'c) Moderato. ♩ = 84' and 'A. M.-R. Barret edited by Martin Schuring'. It shows the updated edition of the score, which is very clean and clear, with ample blank space and simple notation. The dynamic marking is *p*.

Figure 7.

a) Visual clutter as seen in Apollon Marie-Rose Barret, No. 1 from “Forty Progressive Studies,” In *Complete Method for Oboe* (Lafleur and Son, 1862), 57;
 b) The same edition after using ForScore to declutter the appearance;
 c) The updated edition, *Complete Method for Oboe*, ed. Martin Schuring (Kalmus, 2001), 9.

Application of Strategies with Example Students

Jimmy, ADHD

Jimmy struggles with organizing materials, managing their time, maintaining sustained attention, and assessing their own progress. Help Jimmy by modeling the behaviors and organization skills that they struggle with. Be consistent and clear with your teaching materials, timeliness, and expectations. Determine how and where you can be flexible in your pedagogy, and adapt deadlines as needed.

High expectations and flexibility can coexist by means of scaffolding.

Find the path of least resistance to practicing. Jimmy likely never had to practice and therefore does not know how. Help them find ways to easily get started: playing along with recordings, a practice challenge with friends, or improvising. Remove time expectations (i.e. 30 minutes for warmup, 30 minutes for scales) and help them establish a routine. Do not attempt to focus their efforts: encourage them to connect with what comes to mind. Set reminders or alarms

for prescheduled practice times. Jimmy will feel better and more productive if they do something every day.

Stacy, Dyslexia

A student like Stacy, who struggles with auditory and spatial processing, may benefit from using multisensory tactics and segmentation to break the learning process down into manageable steps. Since she can more easily play by ear, call and response patterns can help her build correct associations between how the music sounds and how it looks on the

page. Help her develop a steady pulse by playing together, followed by several repetitions where one person plays a phrase while the other claps a steady beat (be sure to switch roles). Demonstrate how to study the score and mark her music to provide visual and auditory anchors. Working on small chunks or a single layer of the music at first helps prevent her from getting overwhelmed or giving up out of frustration. Modeling a specific process for learning new music provides her with a framework to use in her own practice. Opting for editions of music with more white space on the page can also help alleviate some visual processing issues.

Grover, Autism

Grover was confused by his colleague's comment comparing the bassoons in orchestra to wolves howling at the moon. This example demonstrates a common social communication impairment: difficulty with abstract imagery. Use of metaphor, colorful description, and evocative language are often expected in a music learning environment. For some autistic musicians, such language can be a hindrance to understanding direction or interpreting feedback.

Reducing or eliminating metaphor, for example, is not a simplification of musical direction. Rather, it is a clarification and an opportunity for the teacher to find a more effective explanation. If the metaphor is essential to understanding the music, then take the time to help the student make the connection.

Teacher: Play these notes pizzicato.

Student: I play the bassoon not the cello.

Alternatively

Teacher: A pizzicato-like character would be helpful in this context. What does it sound like when a cello plays pizzicato? Let's watch this great example I found. How can we use our air and tongue to imitate pizzicato?

In our example, Grover might benefit from your guidance. Encourage him to take note of interactions or directions in rehearsals that he does not understand. Be a safe resource for clarification. Model compassion and curiosity.

Concluding Thoughts

At the outset, this type of teaching approach may seem daunting to some. Consider that effective teaching can be both philosophical and technical. Maintain an open mind and engage in honest self-reflection. Make use of a wide range of pedagogical tools, and be willing to experiment to find what works for you and your students. Connect with each of your students as individuals, seeing and hearing them for who they are. Eloise Ristad reminds us that "Minds rarely work equally well in all directions: we each have strengths and weaknesses. The deficiencies are not willful lapses on our part designed to annoy teachers and superiors, but are often brought about because of our strengths."¹²

This article scratches the surface of neurodivergent-inclusive pedagogy. We hope it can serve as a starting point for those looking to explore the topic further.

Suggestions for Further Reading Books

Saundra Yancy McGuire, *Teach Students How to Learn* (Stylus Publishing, LLC, 2015).

This book outlines a practical method for incorporating metacognitive learning strategies into academic instruction at the collegiate level. McGuire is the director emerita of the Louisiana State University's Center for Academic Success, having taught chemistry and worked in learning and teaching support for over 40 years.

Her approach centers on ten learning strategies, designed to help students achieve mastery of their course material through intentional preparation, active engagement during class and lectures, and self-assessment.

Although intended for a lecture-style course, the strategies can be adapted for applied music study.

Tim Miles, John Westcombe, and Diana Ditchfield, eds., *Music and Dyslexia: A positive approach* (John Wiley and Sons, 2008).

A well-known resource for music educators teaching students with dyslexia (as well as other learning differences such as dyscalculia, dyspraxia, etc.). Several authors contributed chapters

on how dyslexia impacts learning, strategies and tools for music educators, sample activities designed to help build music literacy skills, and the results of several neuroscience studies which examine brain activity during music making. The authors espouse a positive approach that prioritizes patience, flexibility, and inclusiveness as a means of supporting dyslexic students. Each chapter includes examples of students with dyslexia and the ways they found success in music.

Dissertations/Thesis

Adam Moxness, "Universal Design for Voice Teaching: Including singers with autistic ways of being in the studio through neurodiversity-affirming pedagogy" (Master's Thesis, Boston Conservatory at Berklee, 2023).

Adam Moxness adapts the Universal Design for Learning (UDL) within the context of teaching neurodivergent musicians in private voice lessons. He asserts that educators must consider the unique complexity of each student's "universe within" in addition to any diagnostic information and societal barriers that may impact their learning. His adaptation of the UDL guidelines emphasizes student agency, and development of a growth mindset, leading to mastery of one's instrument.

Emma Louise Steiner, "Neurodivergences in the Voice Studio: A teacher's guide to best practices concerning dyslexia, attention deficit hyperactivity-impulsivity disorder, and autism spectrum condition" (DMA dissertation, Texas Tech University, 2024).

Vocalist Emma Louise Steiner addresses some difficulties that neurodivergent voice students face in applied lessons. She proposes a systematic approach to teaching and learning, which relies heavily on color-coded visual aids, segmentation, and multisensory tactics. These are similar to the strategies described in *Music and Dyslexia: A Positive Approach* (see above).

Although intended for vocalists, Steiner's system can easily be adapted to instrumental study.

Joy Hoffman, "Professional Classical Musicians with ADHD: A qualitative study." (DMA diss. University of Georgia, 2020), available from ProQuest Dissertations & Theses Global. (2489758783).

Joy Hoffman interviewed eight professional classical musicians with ADHD. The participants of the study provided insight into how ADHD impacts their careers, as well as practical advice for how they compensate for any difficulties they experience in the workplace. Hoffman intended her research to both acknowledge that others with ADHD are not alone, and to help neurotypical musicians better understand the experiences of their neurodivergent colleagues. Hoffman's research demonstrates that, for musicians with ADHD, a strong support system combined with a growth mindset, persistence, and learned creativity greatly contributed to building a successful career.

Stephanie Marie Tetzloff, "Minimize Barriers, Maximize Success: Optimizing the private trumpet lesson experience for students with ADHD" (DMA diss., James Madison University, 2025).

Stephanie Tetzloff addresses a gap in current pedagogical research: many private lesson instructors do not receive formal training or resources to support neurodivergent learners. She provides background information describing differences in the ADHD brain as they impact learning and behavior as well as existing practices for teaching students with ADHD in classroom settings. Tetzloff then proposes physical and pedagogical accommodations for students with ADHD which can be applied to a

private lesson setting. This research demonstrates ways in which modifying the lesson environment and the pedagogical structure of the lesson can improve lesson outcomes. These concepts can easily be adapted to suit the needs of any musician.

Websites

"Autism and Neurodiversity," National Autistic Society. Accessed October 22, 2025.

<https://www.autism.org.uk/advice-and-guidance/topics/identity/autism-and-neurodiversity#What%20is%20the%20neurodiversity%20paradigm>.

The NAC provides clear, detailed definitions of neurodiversity and neurodivergence. It also discusses the neurodiversity movement, the neurodiversity paradigm, and how the medical and social models of disability can impact autistic people. The National Autistic Society is a UK-based charity organization which seeks to provide support and resources to autistic people and their families.

Jennifer Gonzalez, "Nothing's Going to Change My Mind: How unconditional positive regard transforms classrooms," Cult of Pedagogy, September 18th, 2023, <https://www.cultofpedagogy.com/unconditional-positive-regard>.

Cult of Pedagogy is a web resource for teachers, which hosts a blog, podcast, and video library. In a blog post, *Nothing's Going to Change My Mind*, editor-in-chief and veteran teacher Jennifer Gonzalez discusses the impacts of adapting a teaching philosophy that includes "Unconditional Positive Regard."

"The UDL Guidelines," Center for Applied Special Technology, Accessed October 5th 2025, <https://udlguidelines.cast.org>.

The Center for Applied Special Technology is a nonprofit education and research development organization. This website describes the Universal Design For Learning (UDL) Guidelines, which is a framework for inclusive curriculum design. The website provides detailed explanations of each of the three main components of UDL: Engagement, Representation, and Action & Expression. The central principle of UDL is to design learning environments which are accessible, inclusive, equitable, and challenging for every learner; more students can thrive when barriers to learning are removed. UDL is intended to be adapted to all academic subjects, including applied music lessons.

W. Cerbin, "Reduce Cognitive Load," Teaching Improvement Guide, University of Wisconsin at La Crosse Center for Advancing Teaching and Learning. Accessed December 28, 2025, Retrieved from <https://www.uwlax.edu/catl/guides/teaching-improvement-guide/how-can-i-improve/reduce-cognitive-load/>.

This webpage describes cognitive load as it relates to learning. Cerbin provides several strategies that teachers can utilize when introducing new material that help make the learning process easier for students. Educators are encouraged to consider the background knowledge, intellectual skills, and procedures that are needed for a student to fully grasp a concept or complete an assignment. This approach can help identify how to appropriately break down and sequence information in an accessible manner.



Dr. Clair Cangialosi performs as a freelancer in the northern Virginia area. She plays bassoon and contrabassoon with the Loudoun Symphony Orchestra, the Loudoun Lyric Opera, and with her chamber ensemble, Matchsticks Bassoon Quartet. Clair maintains a private studio at the Shenandoah Conservatory Arts Academy in Winchester VA, and is serving a 3-year term on the IDRS Pedagogy Committee. In 2025 she joined Hodge Products as the Bassoon and Digital Content Specialist. Clair holds degrees in music education and performance from The University of Massachusetts Amherst, as well as a DMA from Shenandoah University.



Keith W. Sorrels teaches oboe, music industry, and music appreciation at Middle Tennessee State University. He is a regular guest with the Nashville and Chattanooga Symphonies, and is a sought-after freelancer throughout the mid-South. A native of Indiana, he earned a DM from Indiana University. He lives in Murfreesboro, TN with his violinist wife, Robin, and their children, Lewis and Florence. Find Keith at <http://keithoboe.com> and on Instagram @keithoboe.

Endnotes

- 1 "The UDL Guidelines," Center for Applied Special Technology, accessed October 5th 2025, <https://udlguidelines.cast.org>.
- 2 "The Neurodiversity Movement," National Autistic Society accessed October 22, 2025, <https://www.autism.org.uk/advice-and-guidance/topics/identity/the-neurodiversity-movement>.
- 3 "Autism and Neurodiversity," National Autistic Society, accessed October 22, 2025, <https://www.autism.org.uk/advice-and-guidance/topics/identity/autism-and-neurodiversity#What%20is%20the%20neurodiversity%20paradigm>.
- 4 Moxness, 13.
- 5 Alex Vanet, *Equity-centered Trauma-informed Education* (Routledge, 2023), 97-107.
- 6 Christine McRitchie Pratt, "In and Around the Classroom" in *Music and Dyslexia: A Positive Approach*, ed. Tim Miles, John Westcombe, and Diana Ditchfield, (John Wiley and Sons, 2008), 25.
- 7 Hoffman, Joy. "Professional Classical Musicians with ADHD: A Qualitative Study." (DMA diss. University of Georgia, 2020), 72-76, Available from ProQuest Dissertations & Theses Global. (2489758783).
- 8 McRitchie Pratt, 23.
- 9 Steiner, 19-23.
- 10 Tetzloff, 52.
- 11 Martin Schuring's updated edition is considerably more user-friendly to modern eyes. In the United States, institutions receiving federal financial assistance are required by law to provide reasonable accommodations for students with documented disabilities. This often includes a budget for the purchase of visually accommodating materials or the adaptation of existing materials.
- 12 Eloise Ristad, *A Soprano On Her Head* (Real People Press, 1982), 76.

*Stressfree
reedmaking!*

BUCHER (tip) profiling machines
- for all types of oboes, American scrape too
- for bassoon reeds, historical bassoons and
contrabassoon: until 28mm

BUCHER automatic units

Scraping at highest precision,
easy knife replacement.

Saving time, relaxing and easy-going.

Oboenzubehör Bucher GmbH
Markus Bucher
Bösch 41, 6331 Hünenberg, Switzerland
+41 41 780 40 58, bucher@oboerohr.ch
www.oboerohr.ch



 BUCHER

PAUL HAYDEN

The Devil's Dictionary

for oboe & cello

commissioned by Mark Ostoich

Simple Serenades

for solo bassoon, percussion, & strings

Gabriel Beavers, solo bassoon

Mark Records 51932-MCD

Hambidge Quavers

for oboe & bassoon

Mark Ostoich, oboe & William Ludwig, bassoon

Opus One CD 154

Guttersnipe

for solo bassoon

commissioned by William Ludwig

Quintettino

TVMF Woodwind Quintet

Beauport Classical BC42028

Magnolia Music Press

www.paulhayden.com