

# The Inclusive Studio

## Teaching Students with Disabilities in the Private Piano and String Lesson Settings

"I don't know—something is *wrong* with that kid!"

I was getting ready to guest-teach a friend's students, and my host—a highly successful, highly educated superstar teacher—blurted out those very words in exasperation. She was not able to tell me what exactly was wrong, but the student was not responding to her in the way most others had. This was new. She was frustrated.

The tradition of private one-on-one lessons for piano and bowed string instruments has been prevalent in Western culture since at least the 1700s. As opposed to group instruction that may be provided in the school curriculum, the private lesson setting offers the benefits of the teacher's full attention, customized lesson plans and the chance to start musical training at an age most suitable for the student.<sup>1</sup>

Pedagogical training for private studio instruction has generally focused on teaching strategies for typical learners. A considerable amount of literature and guidance is available for teaching students with disabilities in the general music setting.<sup>2</sup> However, there has been less focus on teaching this student population within the private piano and string lesson environments. Given that private

lessons allow for customized lesson plans, which can be advantageous for students with disabilities, it is necessary to explore the issues surrounding this lesson setting for this particular student population. If teachers do not have the tools to understand the behaviors of students with special needs, they might not be able to recognize the symptoms. This can cause them to feel like the teacher in the opening scenario—confused, frustrated and unable to identify the distinctive indicators of disabilities.

### Literature Review

In recent years, some written materials regarding teaching piano to students with disabilities have become available for interested instructors. In her short book, Kowalski summarized the typical characteristics and provided some medical information regarding the commonly seen disability diagnoses amongst students. She espoused the benefits of a multi-sensory approach and offered some practical suggestions regarding how to work with students who have special needs or disabilities in piano lessons.<sup>3</sup> Froehlich also addressed the topic from her perspective as a Suzuki piano teacher and through the lens of her music therapy training.<sup>4</sup> Scott Price, a professor at the University of South Caro-

lina, well known in the pedagogy world for teaching students who have special needs, has written articles that include tips for teachers who are interested in working with this population.<sup>5</sup> His article from 2010 focused solely on working with students diagnosed with autism. He explained how to establish an effective lesson routine and provide verbal instructions. Bauer identified the necessary traits that teachers need to possess to maintain an inclusive studio.<sup>6</sup> Researchers have also pinpointed technological modifications employed in music therapy so clients can use instruments such as the piano in therapy sessions.<sup>7</sup> Using the five domains identified by music therapists where deficiencies may occur (cognitive, communication, socio-emotional, behavioral, physical), Pausch summarized some of the typical adaptations and provided suggestions for materials that can be used with students who live with some of the more common disabilities.<sup>8</sup> Also, in his new textbook for piano pedagogy, Polischuk included two chapters specifically related to working with pianists who have high-functioning autism and ADHD.<sup>9</sup>

In the string pedagogy and string education realms, there are several resources that specifically touch upon teaching students with disabilities. Patricia Lynn-Wyatt De Orio authored an in-depth guide to modifying and adopting instruction for students studying string instruments. The publication is entitled "Teaching Students with Disabilities; A Resource Guide for the Strings Classroom."<sup>10</sup> In his two-volume guide for teaching orchestra, Stephen Benham devoted several pages to describing the types of disabilities that educators are most likely to encounter in their classrooms as well as some suggestions to assist teachers in working with students with autism and dyslexia.<sup>11</sup> In an article geared toward classroom teachers, Bugaj suggested adaptive strategies for inclusion in the strings classroom, either through accommodations or modifications, allowing for the successful participation of students with disabilities.<sup>12</sup> McDowell compiled a short list of suggestions and considerations for parents and teachers of string students with disabilities. In particular, these recommendations

focused on ensuring a good match between student and instrument, depending on needs and ability.<sup>13</sup>

The information available for private piano and string instructors regarding teaching students with disabilities is limited, and only in recent years has it become more accessible like other pedagogical topics, such as teaching technique, fostering artistry and reviewing repertoire. Although the resources listed above may seem numerous (particularly for piano teachers), the research surrounding teaching students with disabilities in the private lesson setting is still developing. Moreover, individuals who have approached teaching from an exclusively performance background often have no preparation in working with students who have special needs. There are professionals who have taken an interest in teaching students with special needs and have offered advice through articles (including those listed earlier), conferences and podcasts.<sup>14</sup> However, more extensive exploration is needed in this area since the benefits of the one-on-one setting may be particularly advantageous to students with disabilities.

### **Purpose and Research Questions**

The purpose of this study was to better understand the training, tools and resources that studio piano and string teachers have at their disposal to prepare them to work with students with disabilities. Specifically, the researchers wanted to address the following research questions:

1. How many teachers have encountered teaching students with disabilities?
2. What types of diagnoses have they seen amongst their students?
3. What adaptations do they make to their teaching approach and curriculum in order to accommodate these students?
4. Did they receive training to teach students with disabilities as part of their degree programs? What type of support for professional development related to this area of teaching is available for them?
5. What resources geared towards students with disabilities are they aware of?

- Is there any significant difference in responses between those teachers who have a performance training background and those who have a music education/pedagogy background? Is there any significant difference in responses between piano and string teachers?

**Methodology**

One hundred online questionnaires were distributed via email to private teachers of piano and bowed string instruments in the United States. Sixty questionnaires were completed, resulting in a return rate of 60%. The researchers were pleased with this response rate since online surveys often receive fewer responses than more traditional survey methods.<sup>15</sup> Typically, the response rates for online surveys are between 10 and 25%.<sup>16</sup>

A stratified random sample of the 60 responses was surveyed (34 piano and 26 string teachers) Participants answered questions related to their own background and training, the number of students with disabilities in their studios, the curriculum and materials they use with these students, professional development, their preferred teaching strategies and their recommendations for remediating any teacher-related deficiencies associated with teaching this student population.

The responses were collated and examined to find common trends in teacher awareness, teacher perception, pedagogy

training, teaching approaches and strategies. Additionally, chi-square tests were used to determine if there were any statistically significant differences between the responses of the participant groups. An alpha level of .05 was determined a priori. This mixed methods approach helped to illuminate a more multi-dimensional analysis of the participants' responses.<sup>17</sup> Approval for this methodology was received from the institutional review board of the researchers' home institution.

**Results**

**Teacher Profile**

Of the 26 questionnaires completed by string teachers, 23 individuals teach private lessons and will therefore be the focus of the string portion of the study. About half of these string participants came from a performance background and the other half from a music education/pedagogy background. All of the piano participants teach private lessons. Of the piano teachers surveyed, 59% were trained in the performance realm, while 28% had a music education/pedagogy background (See figure 1).

The string teachers surveyed had studios ranging from 4 to 120 students, while the piano teachers surveyed had studios ranging from 4 to 48 students. On average, these individuals had about 20 years of teaching experience, and they came from varying levels of music training backgrounds.

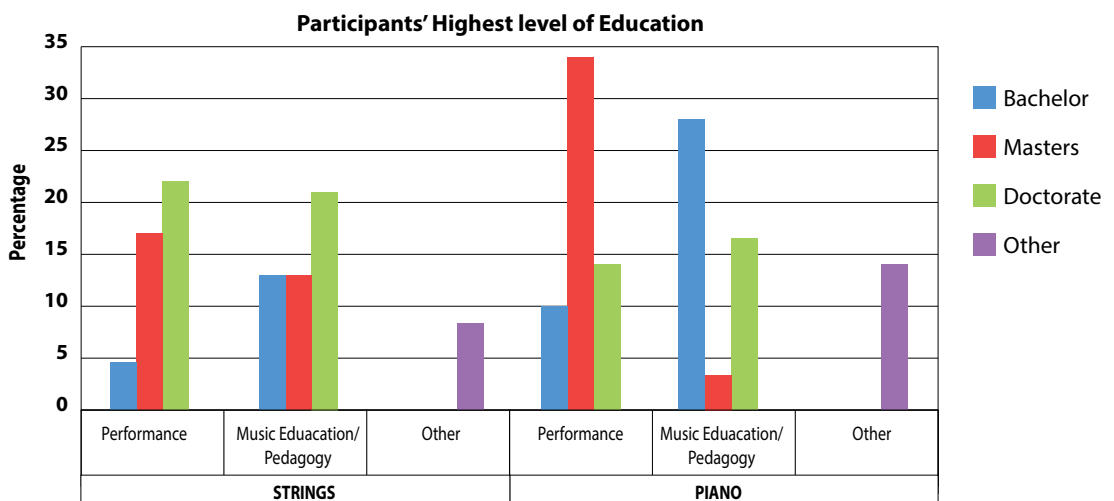


Figure 1: Participants' Highest Level of Education

## TERMS

**Asperger Syndrome**—A person with Asperger’s Syndrome usually has normal intelligence and language development. The person may have problems with social skills, handling change, or reading social cues such as body language. The person might also have a preoccupation with a particular interest, or be oversensitive to sounds, smells, tastes, etc. Asperger’s Syndrome is sometimes referred to as “high-functioning autism.” (NCCDD <https://nccdd.org/welcome/glossary-and-terms/category/people-first-glossary.html>)

**Attention Deficit Disorder (ADD)**—A diagnosis with symptoms that may include difficulty paying attention, being easily distracted and the inability to focus more than a few moments on mental tasks. (North Carolina Council on Developmental Disabilities (NCCDD) <https://nccdd.org/welcome/glossary-and-terms/category/people-first-glossary.html>)

**Attention Deficit Hyperactivity Disorder (ADHD)**—A diagnosis with symptoms that may include difficulty focusing attention and effort to tasks, difficulty in impulse control or delay of gratification and increased activity unrelated to the current task or situation. Most people who have a diagnosis of ADHD alone are not eligible for developmental disability services. (NCCDD <https://nccdd.org/welcome/glossary-and-terms/category/people-first-glossary.html>)

**Autism**—A neurological disorder that affects normal development in the areas of social interaction, behavior, and communication skills. This developmental disability typically appears during the first three years of life. The main features include disturbances of: 1) developmental rates; 2) responses to sensory stimulation; 3) speech, language, and learning abilities; 4) ability to relate to people, events and objects. (NCCDD <https://nccdd.org/welcome/glossary-and-terms/category/people-first-glossary.html>)

**Cerebral Palsy**—A condition caused by damage to the brain before, during or after birth that limits a person’s ability to fully control his/her muscles. People with CP are affected in different

areas of the body, in the number of body parts affected, and in their symptoms. Common characteristics of CP include involuntary movements, problems making voluntary movements because muscles are spastic or tense, and a loss of coordination. (NCCDD <https://nccdd.org/welcome/glossary-and-terms/category/people-first-glossary.html>)

**Dyslexia**—A learning disorder that involves difficulty reading due to problems identifying speech sounds and learning how they relate to letters and words (decoding). Also called reading disability, dyslexia affects areas of the brain that process language. (Mayo Clinic <https://www.mayoclinic.org/diseases-conditions/dyslexia/symptoms-causes/syc-20353552>)

**Dyspraxia**—A neurological disorder throughout the brain that results in life-long impaired motor, memory, judgment, processing and other cognitive skills. (Dyspraxia Foundation USA - <https://dyspraxiausa.org/>)

**Focal dystonia**—Dystonia is a movement disorder in which muscles contract involuntarily, causing repetitive or twisting movements. Focal dystonia refers to the condition affecting one part of the body. (Mayo Clinic - <https://www.mayoclinic.org/diseases-conditions/dystonia/symptoms-causes/syc-20350480>)

**Low muscle tone**—This term is used to describe muscles that are floppy, which is also known as hypotonia. Those with low muscle tone may need to put in more effort to get their muscles moving properly when they are doing an activity. They may also have difficulty maintaining good posture when sitting or standing. (The Royal Children’s Hospital Melbourne [https://www.rch.org.au/kidsinfo/fact\\_sheets/Low\\_muscle\\_tone/](https://www.rch.org.au/kidsinfo/fact_sheets/Low_muscle_tone/))

**Parkinson’s disease**—A progressive nervous system disorder that affects movement. (Mayo Clinic <https://www.mayoclinic.org/diseases-conditions/parkinsons-disease/symptoms-causes/syc-20376055>)

**Research question #1: How many teachers have encountered teaching students with disabilities?**

Of the 57 respondents who confirmed they taught private piano or string lessons, 48 teachers (84%) acknowledged they had experience instructing students with disabilities. Most had taught only a handful of students with special needs, around five or fewer students in their careers.

**Research question #2: What types of diagnoses have they seen amongst their students?**

The disabilities encountered were mostly related to autism, including Asperger syndrome. A number of teachers also cited they had worked with students who were diagnosed with ADHD or exhibited symptoms of hyperactivity. Some teachers encountered students with dyslexia and visual impairments. Teachers also indicated they had taught students with physical disabilities such as focal dystonia, low muscle control and no use of legs as well as disabilities caused by illness such as a stroke, Parkinson’s and cerebral palsy. The teachers were asked about the types of disabilities they encountered in the studio through an open-ended question. While this provided more freedom for the teachers’ responses, it likely produced overlap in the answers. We should also take into account that some of the teachers might be making assumptions regarding the disabilities of their students.

**Research question #3: What adaptations do they make to their teaching approach and curriculum in order to accommodate these students?**

In terms of curriculum, 84% of the string teachers who teach students with disabilities find that they need to adapt their curriculum. If teachers adhered to any “standard” curriculum it was typically the Suzuki violin school or *Essential Elements*, both with adaptations. Beyond that, teachers created their own curricula and experimented with different approaches until they were successful. Some acknowledged their own limitations and

experience working with students with disabilities. These individuals sought out experts to gain ideas about effective approaches that might be useful or appropriate. As there are no well-known string curricula for working with students with disabilities (and—as most teachers point out—any challenges tend to vary by student), most teachers rely on the same curricula as they would use for other students, with child-specific adaptations when appropriate for any students with special needs. The differences in approach tend to focus on varied pacing, methods of delivery (perhaps aural instead of visual) and a willingness to approach the student and the process with creativity, patience, an open mind and flexibility.

Similarly, all piano teachers who responded to the questionnaire believed they need to adapt their curricula for students with disabilities. As seen with the string teachers, they tailor the methods they already use to best suit the students and/or choose materials that may be more appropriate. Such adaptations to curricula and materials include:

- ▶▶ Writing music for the student’s needs
- ▶▶ Adding a teacher duet part if it is not already included
- ▶▶ Reducing technical challenges and increasing theoretical challenges
- ▶▶ Choosing method books and materials free of illustrations and color

Piano teachers also stated they would make adaptations to the studio lesson environment if it was too distracting. Adjusting the seating position and location of the student (including sitting on the floor away from the piano) were also offered as options for making adjustments for the students.

There are a number of adaptations made by both string and piano teachers related to teaching style when it comes to working with students with special needs. As one would hope, teachers overwhelmingly made references to adapting approaches based on the individual needs of each student. Noteworthy responses included:

“I start by asking questions of students to gauge level of comfort, needs, or understanding.”

"I participate in ongoing analysis with the student of their learning style and mental paradigms that challenge their learning process with the intent of finding more efficient modes of learning."

These adaptations might include a slower pace, more repetition for mastery and perhaps more review and quizzing for a student with memory issues. For a student with visual impairment, teachers suggest enlarging music or using a tablet on which a larger score can be displayed. One teacher said: "I accept that this student will do more rote learning than other students at their level, and that's fine." For students with dyslexia, one teacher suggested color-coding music notation. Several respondents mentioned teaching strategies for working with students on the autism spectrum. These included limiting the number of assignments while taking care to give concise explanations and instructions and using more repetition in the lesson. Another teacher working with a student with autism occasionally rewrites music to help the student process it better. For example, the teacher may use more half notes and more repetition instead of using quarter and eighth notes.

Other adaptations to teaching style that respondents used included:

- ▶▶ Using very effusive positive reinforcement more frequently
  - ▶▶ Playing with the student more often to develop a steady pulse
  - ▶▶ Playing more games
  - ▶▶ Recording parts of lessons for reference at home
  - ▶▶ Using rhythmic visuals, writing out letter names, teaching recital pieces by rote
  - ▶▶ Blocking off parts of the page to reduce distractions
  - ▶▶ Incorporating games and extra worksheets
- ▶▶ Fingering adaptations; using larger muscle movements
  - ▶▶ Providing visual enhancements and helping students understand pattern development
  - ▶▶ Using music that fits the students' interests
  - ▶▶ Making use of tablet devices
  - ▶▶ Incorporating drawing
  - ▶▶ Using body movement activities and moving the lesson at a faster pace if the student becomes unfocused

Some teachers also provided adaptations for specific disabilities:

- ▶▶ Using only one hand for a piano student with cerebral palsy
- ▶▶ Avoiding intricate passagework for a student with focal dystonia
- ▶▶ Using a sliding window cut out for a student with dyslexia in order to only see one measure at a time

One teacher stated that it was important to encourage more parental involvement. Another emphasized the necessity of providing clearer directives. This teacher had a student who would confuse key (tonality) with a key to open a door. This example serves as an excellent reminder that homographs, homonyms and figures of speech will need to be explained or even avoided altogether when working with this student population. Piano teachers with visually impaired students found they needed to emphasize tactile learning. Another piano teacher who worked with a student who had low muscle tone needed to focus on working very slowly and playing with one hand at a time.

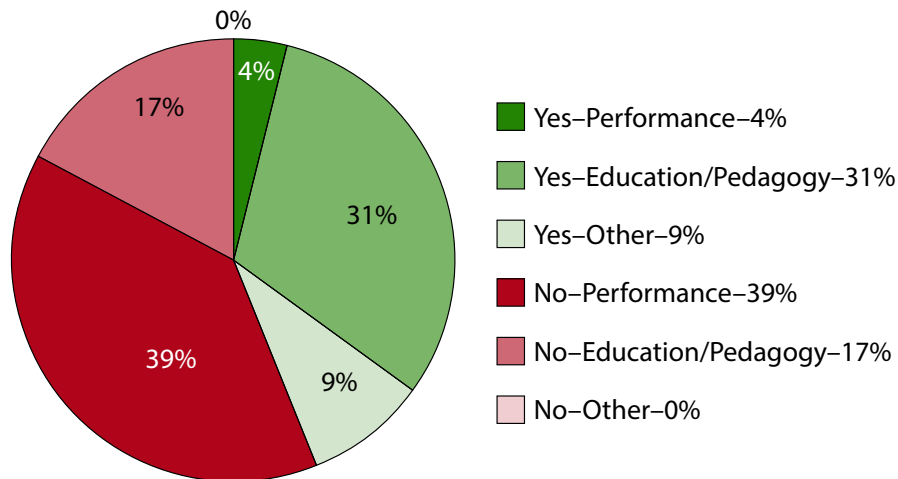
The essence of these approaches can be summed up in this quote: "I find that I have to be more flexible in general, more child-like, more fun and silly than the usual normal. I need to be more patient and more creative as I plan my lessons. Sometimes we have lessons sitting on the floor. We have to accept that the learning process is non-linear."



**Research Question #4: Did they receive training to teach students with disabilities as part of their degree programs? What type of support for professional development related to this area of teaching is available for them?**

The results of this questionnaire also shed some light on whether college students are receiving adequate training related to teaching students with disabilities. Of the 23 private string teachers who responded to the survey, the majority (12) did not recall having any kind of training in how to work with students with special needs. The nine string teachers who did have training, appear to have received it in the context of a music education curriculum. It should be noted that many of the students graduating with music education degrees go on to focus the bulk of their professional activity on the public school orchestra classroom and much less on private studio teaching (See Figure 2).

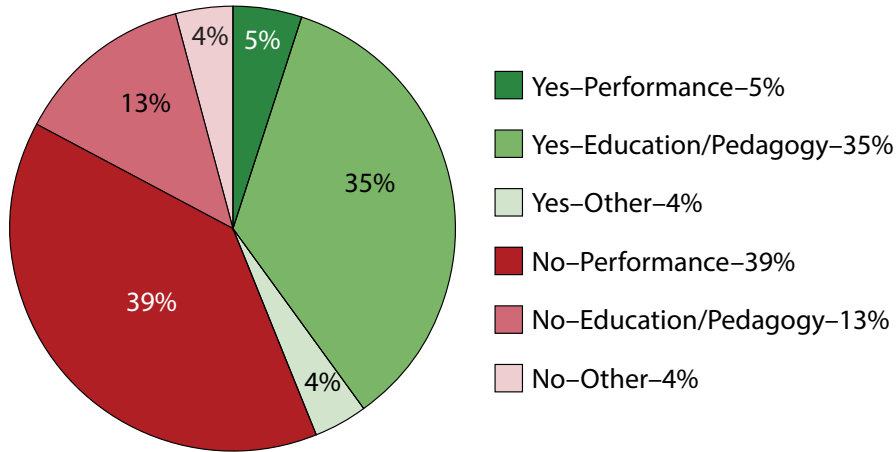
**String Teachers—Did you receive training to teach students with disabilities as part of your degree program?**



**Figure 2: String Teachers’ Training During Education—Responses According to Their Degree Programs**

Nine of the string teachers surveyed attended professional development events focusing on working with students with disabilities. The events they listed were associated with the Texas Orchestra Directors Convention (TODA) and the Florida Music Educators Association (FMEA) in-service conference—the membership of which suggests they were public school teachers with music education degrees and not necessarily teachers with performance backgrounds who focus solely on private studio teaching. This is confirmed by the data provided by the teachers—seven of the eight string respondents who attended professional development clinics were from the education and pedagogy backgrounds. However, only one of the eight teachers with a performance background attended any kind of a professional development clinic related to students with disabilities. Similarly, of the string teachers coming from a performance background, only one had received any kind of training during their degree program. All of this would suggest that many of our graduates, but particularly those graduating with string performance degrees, are left to their own devices when meeting and teaching students with disabilities (see figure 3).

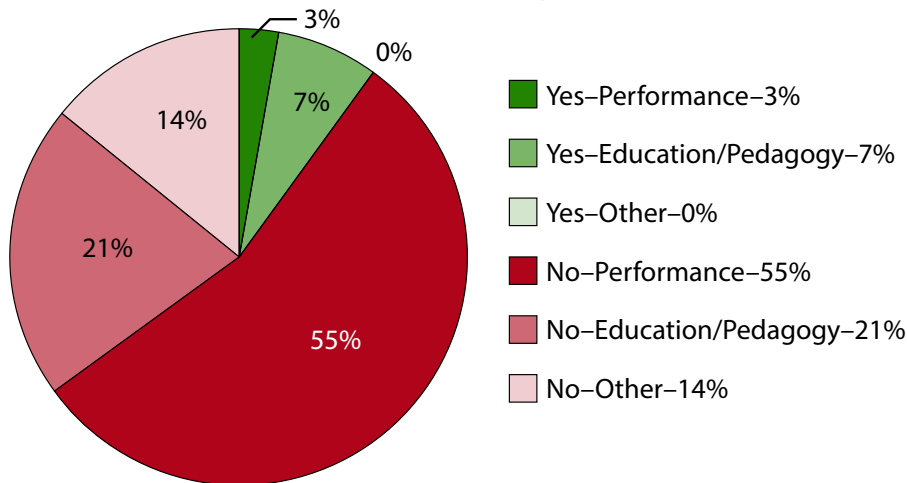
**String Teachers—Have you engaged in professional development related to teaching students with special needs?**



**Figure 3: String Teachers’ Professional Development—Responses According to Their Degree Programs**

Similar results are even more magnified among the participants who teach piano. Most individuals did not receive formal training for teaching students with disabilities. There is an overwhelming number of participants with piano performance backgrounds who did not receive training for teaching students with special needs. This population was also less likely to seek out professional development or resources in this area. Pianists with an education or pedagogy background were still less likely to receive any specialized training during their formal education years. Conversely, they were more likely to seek professional development in this area during their careers (See Figure 4)

**Piano Teachers—Did you receive training to teach students with disabilities as part of your degree program?**



**Figure 4: Piano Teachers’ Training During Education—Responses According to Their Degree Programs**

Only three pianists acknowledged they received training that was more significant preparation for teaching students with disabilities. One teacher took a course in college on teaching students with disabilities. This teacher also interned in a general music program for three months. Another participant stated he attended lectures and discussions that were incorporated into formal course work. Finally, another individual believed the presentations and workshops she attended served as the bulk of her professional training.



Approximately 45% of all piano teachers surveyed stated that they had participated in professional development related to teaching students with disabilities. The types of activities they attended included local workshops given by music therapists as well as sessions presented by Scott Price held at state and national conferences. Other teachers listed contacts such as a child psychiatrist and a music therapist as important resources for this area of their teaching practice (See Figure 5).

**Piano Teachers—Have you engaged in professional development related to teaching students with special needs?**

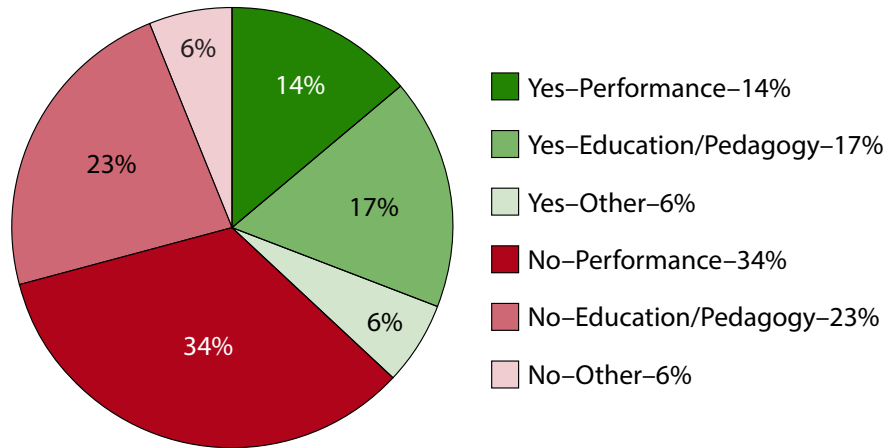


Figure 5: Piano Teachers' Professional Development—Responses According to Their Degree Programs

**Research Question #5: What resources geared towards students with disabilities are they aware of?**

A high number of string teachers (65% of those surveyed) acknowledged that they were not aware of resources intended specifically for students with disabilities. Of those who stated they were aware of resources, only a few individuals responded with specific materials. One teacher was aware of websites that featured braille music for students with visual impairment. Another individual noted several physical resources such as prosthetic devices used with a student who can only play with one hand. Teachers were not aware of any books or curriculum designed to assist them when working with students with disabilities (See Figure 6).

**String Teachers—Are you aware of resources geared specifically to helping students with disabilities?**

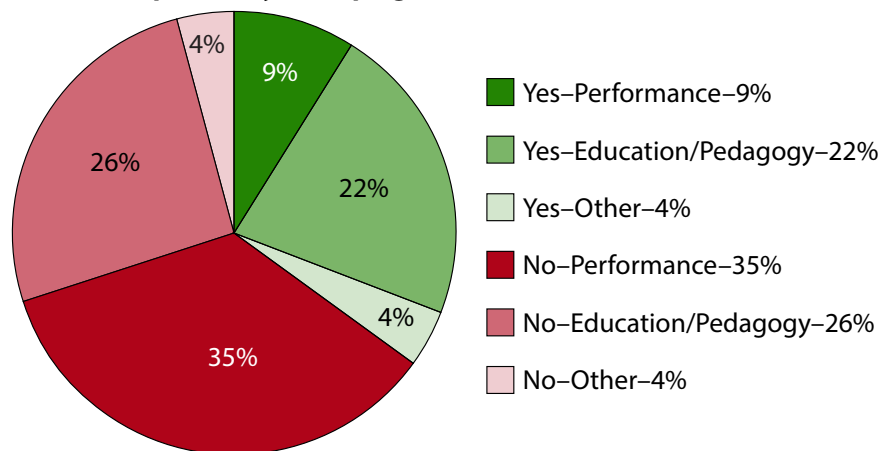
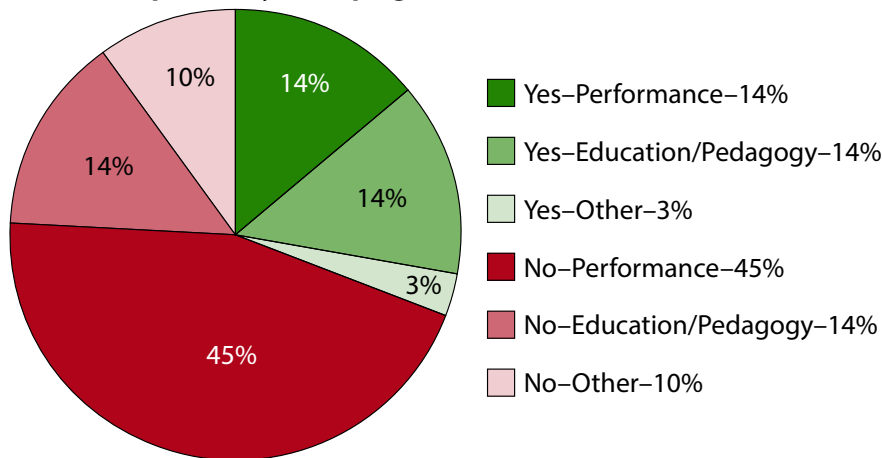


Figure 6: String Teachers' Awareness Of Resources—Responses According to Their Degree Programs

Most piano teachers (almost 70% of those surveyed) were not aware of any resources for teaching music to students with disabilities in a private lesson setting. Those knowledgeable of resources most often consulted books, online articles and blogs related to teaching these students. Scott Price was often referred to in the questionnaire responses about resources. His writings, workshops, interviews and teaching videos are sought after, and he is seen as the go-to expert for teaching piano to students with special needs.

One piano teacher cited specific resources that she uses with her students including *Dancing Dots*, a magnification software for low vision and *Attention Grabbers*, a piano music series, written by Diane Hidy, for students with attention deficit disorders (See Figure 7).

**Piano Teachers—Are you aware of resources geared specifically to helping students with disabilities?**



**Figure 7: Piano Teachers' Awareness Of Resources—Responses According to Their Degree Programs**

**Research Question #6: Is there any significant difference in responses between those teachers who have a performance training background and those who have a music education/pedagogy background? Is there any significant difference in responses between piano and string teachers?**

Upon analysis of the data and as represented in the charts displayed, it is clear that the majority of respondents do not have access to nor have sought out resources and professional development related to teaching students with disabilities. Furthermore, the majority of participants did not receive training specific to teaching students with special needs during their formal education. The lack of awareness of resources, professional development and formal training is even more prominent amongst those who teach piano than those who teach bowed string instruments.

A series of chi-square tests were completed to determine if there was any significant difference between the responses of the piano teachers and string teachers and if there was any significant difference between those who graduated with a performance degree, education/pedagogy degree or another educational background. When comparing piano versus string teachers, there was no significant difference between the participants' responses regarding their awareness of resources and involvement in professional development. There was, however, a significant difference between the piano and string teachers regarding whether they received formal training related to teaching students with disabilities during their degree programs ( $\chi^2(1, 52)=5.85, p<.05, V=.38$ ). Most piano teachers stated they did not receive any formal training in this area during their academic studies. Meanwhile, 44% of the string teachers stated they did receive formal training related to teaching students with disabilities. This difference could be due to the fact that it is more common for those who teach private piano lessons to come from performance degree training. As a result, they are not required to take

**Suggested Adaptation Strategies for Teaching Students with Special Needs**

Teaching Style	Materials
<ul style="list-style-type: none"> <li>» Vary pacing</li> <li>» Vary method of delivery (aural vs. visual vs. kinesthetic)</li> <li>» Approach the student and process with creativity, patience and flexibility</li> <li>» Reduce distractions in the studio</li> <li>» Vary location of lesson within the studio room</li> <li>» Incorporate rote learning</li> <li>» Use very effusive positive reinforcement frequently</li> <li>» Provide clear directives</li> <li>» Monitor use of homographs, homonyms and figures of speech as they might cause confusion</li> </ul>	<ul style="list-style-type: none"> <li>» Add a teacher duet part if it is not already included</li> <li>» Reduce technical challenges and increase theoretical challenges</li> <li>» Choose materials with less distracting illustrations and color</li> <li>» Rewrite music when necessary</li> <li>» Use tablet devices</li> <li>» Choose music that matches student’s interest</li> </ul>

music education courses where there is a higher chance they will encounter training related to teaching students with disabilities.

When using statistical analysis to compare the participants’ responses according to their educational backgrounds, there were expected and surprising findings. When comparing the participants’ educational backgrounds, there was a significant difference between those who graduated with performance degrees, education/pedagogy degrees and a third category of other degrees. Most individuals with performance backgrounds did not have formal training related to teaching students with disabilities ( $\chi^2(2, 52)=9.75, p<.01, V=.43$ ). Approximately, half of those with an education/pedagogy background had received this type of formal training during their degrees. The majority of teachers with a performance background also did not engage in professional development for teaching this particular student population ( $\chi^2(2, 52)=12.06, p<.01, V=.48$ ). However, almost 75% of those with an education/pedagogy background claimed they do engage in this type of professional development. Although a significant difference was found regarding the participants’ training and pro-

fessional development, this did not translate to their awareness of resources for students with disabilities. There was no significant difference found between the participants’ educational backgrounds for this inquiry. This could mean the number of tangible resources available for students with disabilities and their teachers is very limited. It could also mean those involved with formal training and professional development need to be more specific and emphatic about the materials available for instructors and students.

**Recommendations**

As we educate our next generation of future private studio teachers, there are a number of adjustments we can implement in our college curriculum to help prepare them to teach all student populations. Based on the results of this survey, it is highly likely that a private music instructor teaching one-on-one lessons will encounter students with disabilities in their careers. Therefore, it is important we equip these teachers with tools and strategies so they feel comfortable working with students of many backgrounds and learning preferences.

Within the pedagogy curriculum—which a number of piano and string performers

Lesson Activities	Adaptations for Specific Disabilities
<ul style="list-style-type: none"> <li>▶▶ Write music for student's needs</li> <li>▶▶ Play with students to develop a steady pulse</li> <li>▶▶ Play more games</li> <li>▶▶ Record parts of lessons for at-home reference</li> <li>▶▶ Use rhythmic visuals</li> <li>▶▶ Block off parts of the page to reduce distractions</li> <li>▶▶ Use larger muscle movements for fingering adaptations</li> <li>▶▶ Help students understand pattern development through visual enhancements</li> <li>▶▶ Incorporate drawing</li> </ul>	<ul style="list-style-type: none"> <li>▶▶ Dyslexia—color code music notation; use a sliding window cut out so that student only sees one measure at a time</li> <li>▶▶ Visual impairment—enlarge the score; emphasize tactile learning</li> <li>▶▶ Autism—limit number of assignments, provide concise instructions, use more repetition</li> <li>▶▶ Cerebral palsy—use only one hand at the piano</li> <li>▶▶ Focal dystonia—avoid intricate passage work at the piano</li> <li>▶▶ Low muscle tone—work very slowly and with one hand at a time at the piano</li> <li>▶▶ Dyspraxia—fingerboard tapes for proper left-hand finger placement on a string instrument</li> <li>▶▶ Difficulty with fine-motor control on a bowed string instrument—adding a bow guide or bow hold aid</li> <li>▶▶ For students born without fingers or who lost fingers, a string instrument can be modified by a professional luthier (string specialist) so that it can be held in the right hand and bowed with the left hand</li> </ul>

shun because they do not plan on being teachers—we should inform our students about at least the most frequently occurring disabilities that they are likely to come in contact with. Beyond a generic label, each of those disabilities should be described and the most common symptoms understood. Our students should be given at least the most basic toolbox of approaches they could use with their students. They should at least understand what to look for, what to expect and the different ways of experiencing success with a variety of students. It should also be noted that all students, whether they have special needs or not, have their own learning preferences and therefore need their own adaptations. Attending to the needs of this particular student population is, in essence, simply a good pedagogical practice.

For a high-performing solo-minded pianist or violinist coming out of a conservatory setting, the concept of success might not at first glance be the playing or plucking of several notes by a student. Yet, helping our students understand the importance of reframing each teaching interaction in its own context is invaluable. Success takes many forms. Often times, in the performance-driven world

of music making, it is possible, especially for inexperienced teachers, to overlook the importance of the process itself. In many cases it is the process of helping this student population that is the success. Additionally, there also needs to be more of an effort to help pianists gain awareness about the issues surrounding teaching students with disabilities during their formative college education. Since private piano teachers are usually educated within the performance degree (rather than a music education degree) setting, professors who teach the pedagogy course often required for this degree need to find ways to incorporate discussions and training related to teaching students with disabilities. This recommendation stems from the fact that there was a significant difference between the piano and string teachers surveyed in this study.

The participant sample for this particular research project included a number of string players trained in the music education/pedagogy context. This raised the likelihood that they received some training in working with students with disabilities. For those bowed string players majoring in applied performance, an educational component pertaining to teaching students with disabilities would be

highly recommended, much like their piano counterparts. Regardless of the concentration of study on the part of the future instrumental teachers, the uncomfortable truth remains that there are—at this point in time—few comprehensive resources exclusively addressing teaching students with disabilities in the context of the orchestral classroom or private string studio. The creation of such a specific resource would fill a gap in the pedagogical canon and provide a much-needed resource for string teachers working in various contexts. Additionally, based on the responses of this survey, it is evident that even with limited resources, some teachers are finding creative ways to make adaptations to their teaching approaches and curricula when working with students with disabilities. Research is needed to determine if these specific adaptations are, in fact, helpful for students.

### Implications for our Profession

Based on this small but diverse survey of string and piano teachers, we can see that some limited resources exist, but that largely, our teachers are on their own. Some pick up tips along the way; others seek out information, rely on intuition and, over time, develop an understanding of how to work with students with special needs. Others never do, neglecting or rejecting students who are different and potentially depriving the student of experiences that are likely to enrich their lives in a variety of ways.

This study aligns with the growing awareness that students' differing learning preferences need to be addressed. In music education, pre-service teachers are introduced to students' special needs more formally. Within the context of piano and string pedagogy as a sub-topic of a performance-based education, specifically addressing potential disabilities of students is not typically done. However, in recent years, more and more teachers are cognizant that the profession needs to value inclusivity and ensure all students are given the chance to be involved in music learning. The results of this study were not surprising for the authors and confirm that greater education and awareness of teaching

strategies for this particular student population is needed. Because one-on-one private piano and string teachers often receive the bulk of their training within performance degrees, it is necessary to ensure these teachers receive formalized training early on in their post-secondary education so they are equipped to teach all types of students.

It is clear that in our profession we need to create materials, teaching guides and integrate training into our teacher and performer curricula to help guide professional musicians to work with students with disabilities. Just as we help our future teachers learn how to set up a bow hold or develop proper posture at the piano with their students, we also need to help them learn how to work with whatever differences and circumstances those students bring into our studios. ◀◀

### Notes

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### Additional References

Interested in learning more about teaching students with special needs? Please consult the bibliography for excellent reading material as well as these other resources.

- ▶▶ Piano teachers may want to attend sessions at events like the MTNA National Conference and the National Conference on Keyboard Pedagogy that focus on teaching students with special needs. In particular, look for sessions given by Scott Price (University of South Carolina) Beth Bauer (Wheaton College) and Derek Polischuk (Michigan State University).
- ▶▶ Piano and particularly string teachers may want to seek out conferences geared towards music educators in the school systems. These include the NAFME Teacher Education National Conference, the American String Teachers Association (ASTA) National conference and the conferences of state organizations that are affiliated with NAFME such as the Florida Music Educators Association In-Service Conference and the Texas Orchestra Directors Convention
- ▶▶ A collection of podcasts and articles archived on the Tim Topham website: <https://topmusic.co/special-needs-piano-teaching/>
- ▶▶ The book "Teaching Students With Disabilities; A Resource Guide For The Strings Classroom" by Patricia Lynn-Wyatt De Orio is an excellent resource for string teachers.

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