

Asperger's Syndrome and the Piano

A Challenging Match

Students from many different developmental backgrounds can be found in the modern music studio; however, teachers often know too little about the particular learning requirements of students with special needs. Students with learning disabilities, and frequently students without, may find the study of an instrument to be discouraging and confusing when a teacher does not employ appropriate and carefully crafted teaching tactics sensitive to the student's unique learning style. When a teacher approaches lessons with a developmentally disabled student from an informed and sensitive background, this student's experience can be an empowering pursuit in an educational life that may, at many other times, seem daunting and puzzling. Asperger's Syndrome is a relatively common disorder that requires educators to take a specific approach to music instruction to achieve positive learning outcomes.

"Autistic Psychopathy," as the condition was originally termed by Hans Asperger, is a consistently discussed and sometimes controversial diagnostic category. Asperger, a Viennese pediatrician in the mid-20th century,

described a group of children, mainly boys, with a pattern of challenges and assets, which he collectively referred to as AP. In his summary of the disorder, he discusses the children's appearance; their intellectual functioning, which included their learning deficits and attention difficulties; their problematic behavior in social situations and their impaired emotions. Asperger believed that those with Autistic Psychopathy were a group of eccentric, withdrawn, but most often highly gifted individuals who manage social integration despite their relatively odd social interactions and communications.¹

In 1981, Lorna Wing described Asperger's AP for the first time in more detail in an English-language publication.² Wing coined the term "Asperger's Syndrome" and observed additional items in the developmental history of children with AS while pointing out that AP often times also occurred in individuals with learning disabilities.

Asperger's Syndrome is a milder variant of Autistic Disorder. Both Asperger's Syndrome and Autistic Disorder are subgroups of a larger diagnostic category called Pervasive Developmental Disorders (PDD) in the United

States. In Asperger's Syndrome, affected individuals are characterized by social isolation and eccentric behavior in childhood. Deficiencies also exist in two-sided social interaction and non-verbal communication. Though often grammatically sound, individuals with Asperger's Syndrome often display peculiar patterns of speech due to abnormalities of inflection and often unusually repetitive patterns. General clumsiness is occasionally prominent both in small and large motor behaviors. Individuals with Asperger's Syndrome usually have a circumscribed area of interest, which usually leaves almost no space or time for typical age-appropriate, more common interests.

Examples of these interests can include such a diverse range of topics as cars, trains, French Literature, doorknobs, cappuccino, meteorology, astronomy, history and music.³ In a 1993 total-population study of the epidemiology of Asperger's Syndrome in Goteborg, Sweden, the minimum prevalence of Asperger's Syndrome was 36 out of 10,000 total children, with a male/female ratio of occurrence of 4:1.⁴

The diagnostic criteria for Asperger's Syndrome is highlighted by difficulty in social interaction, as manifested by at least two of the following specific characteristics:

1. Marked impairment in the use of multiple nonverbal behaviors such as eye-to-eye gaze, facial expression, body postures and gestures to regulate social interaction
2. Failure to develop peer relationships appropriate to developmental level
3. A lack of spontaneous seeking to share enjoyment, interests or achievements with other people (for example, by a lack of showing, bringing or pointing out objects of interest to other people)
4. A lack of social or emotional reciprocity

Additionally, restricted repetitive and stereotyped patterns of behavior, interests and activities are usually manifested by at least one of the following:

1. Encompassing preoccupation with one or more stereotyped and restricted patterns of interest that is abnormal either in intensity or focus
2. Apparently inflexible adherence to specific, nonfunctional routines or rituals
3. Stereotyped and repetitive motor mannerisms (for example, hand or finger flapping or twisting)
4. Persistent preoccupation with parts of objects

There is no clinically significant general delay in language or cognitive development or in the development of age-appropriate self-help skills, general adaptive behavior and curiosity about the environment in childhood.⁵

Asperger's Syndrome is occasionally not the only psychological condition affecting an individual. Asperger's Syndrome frequently occurs with other problems such as Attention Deficit Hyperactivity Disorder (ADHD), Oppositional Defiant Disorder (ODD), Depression, Bipolar Disorder, Generalized Anxiety Disorder and Obsessive Compulsive Disorder.⁶

There is no cure for Asperger's Syndrome. Current suggested interventions are mostly symptomatic and/or rehabilitational in nature. Psychosocial interventions include individual psychotherapy to help an individual process feelings aroused by being socially handicapped, parent education and training, behavior modification, social skills training and educational interventions. Psychopharmacological interventions include specific drugs based on the particular behaviors, which could include hyperactivity, inattention and impulsivity, irritability and aggression, preoccupations, rituals and compulsions, and/or anxiety.

A Case Study Of Piano Lessons With A Student With Diagnosed Asperger's Syndrome

Kalil Olsen first began studying the piano in the fall of 2007 in the "Pianoissimo" group class

taught by master's degree candidates in piano pedagogy at the Michigan State University College of Music. In the summer of 2008, He began taking private lessons with me in my studio at MSU, and worked with undergraduate piano majors enrolled in piano pedagogy in the fall semester of 2008. Olsen is an intelligent and charismatic 8-year-old boy with diagnosed Asperger's Syndrome. He has a genuine passion for playing the piano, generally exhibits strong intrinsic motivation for his piano studies, and has developed an attachment to me and our time together, which has resulted in both positive and negative educational outcomes. Olsen's piano lessons have become a satisfying and successful creative outlet for him, and, as a result, he has repeatedly stated that they are a highlight of his week. In addition to this enthusiasm, Olsen also exhibits a high sense of anxiety when he is not, by his perception, adequately prepared. He frequently excels at his piano study, yet struggles with many subjects in school.

As mentioned, Olsen's first formal piano instruction took place in a beginning group keyboard class called "Pianoissimo" at the Michigan State University Community Music School during the fall semester of 2007 and the spring semester of 2008. These classes had five and four students, ages 6 and 7 respectively, and were taught by MSU piano pedagogy students under my supervision. These beginning piano students were taken through a traditional beginning piano curriculum using the *Piano Adventures* method book series. In the summer of 2008, Olsen took 15, 30-minute private lessons with me, during which time we further cultivated his basic piano skills and focused especially on his interest in improvisation and composition. A typical weekly assignment would consist of two pieces of late-beginner to early-intermediate level classical repertoire, technical exercises including pentascales and eventually major and minor scales, and one or two improvisation games with specific compositional parameters. As a

teaching practicum for the fall 2008 undergraduate class in keyboard methods and literature at MSU, six undergraduate students majoring in piano performance or piano pedagogy took turns teaching Olsen privately every other week as a study in teaching piano to students with developmental disabilities. During those weeks when Olsen was not working with these college students, he took private lessons with me. All of these lessons were posted in their entirety for private viewing on *YouTube*. MSU piano pedagogy students watched these videos weekly, and evaluated the teaching they witnessed in written assignments.

Extensive lesson planning was done each week by the entire group as a means to provide consistent instruction for Olsen, while being taught by multiple teachers. Piano pedagogy students were not present during those weeks I taught Olsen privately, so to keep them updated on his progress, and to demonstrate quality and effective teaching, I posted these lessons in their entirety on *YouTube* for their review. As a device for feedback on their teaching, lessons taught by students in this course were also placed on *YouTube*.

YouTube allows users to post videos privately, giving access only to selected individuals. Highlights from these videos were placed on "The Piano Pedagogy Blog" found at www.michiganstatepianopedagogy.blogspot.com. On this blog you can see Olsen in a variety of piano lessons including these highlights:

- Olsen playing a note identification game with MSU piano pedagogy major Allie Nisbett: <http://michiganstatepianopedagogy.blogspot.com/2008/11/guest-blogger-allison-nisbett-writes.html>
- Olsen improvising in a groove-oriented minor mode: <http://michiganstatepianopedagogy.blogspot.com/2008/11/improvisation-and-creativity-in-lessons.html>
- Olsen performing "Imitation and Inversion" from Bartók's *Mikrokosmos* for MSU piano performance major Stephen Armstrong:

<http://michiganstatepianopedagogy.blogspot.com/2008/10/heres-kalil-from-just-few-days-later.html>

- Olsen working on note and key recognition with MSU piano performance major Borah Han: <http://michiganstatepianopedagogy.blogspot.com/2008/09/note-recognition-with-kalil.html>
- Olsen playing a duet with me early on in his studies: <http://michiganstatepianopedagogy.blogspot.com/2008/09/this-semester-my-undergraduate-class.html>

Children with Asperger's Syndrome often display unusual language peculiarities that tend to be the most dominant characteristics of the disorder. When discussing the communication of children he worked with, Dr. Asperger frequently referred to their unusually sophisticated and distinguished language and their overall good verbal ability. Asperger observed that children he worked with frequently spoke like scholars or professors about their chosen field. Asperger drew a connection between the language of children with Asperger's Syndrome and their thought process, which he viewed as often being creative, spontaneous and original. Major categories of language and communication characteristics identified by Asperger included the following:

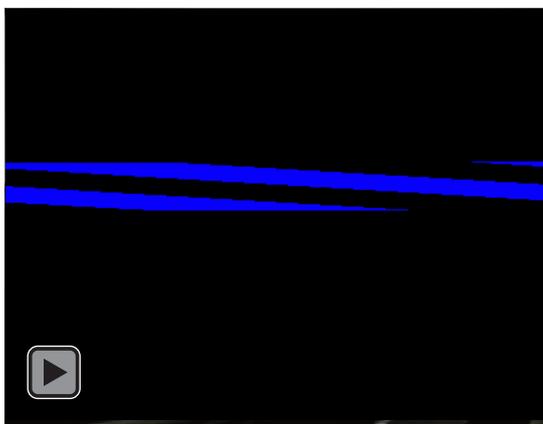
- Ignorance of social situations when talking
- Talking in monologues or commenting on their own actions/talking to themselves
- Deviant modulation (monotony) or over-articulation (over-exactness)

While the literature regarding language characteristics, behavioral anomalies and non-verbal communication of children with Asperger's Syndrome is extensive, the specific musical characteristics of children with Asperger's Syndrome have yet to be observed. In the examples used in this study, I have attempted to categorize musical behaviors exhibited by Olsen, a student with diagnosed Asperger's Syndrome, into the three

categories of language and communication characteristics listed above as outlined by Dr. Hans Asperger, with the hope that applied music teachers might be able to successfully identify these characteristics in their students and provide logical teaching strategies specific to the characteristics of the disorder.

Category #1: Ignorance Of Social Situations While Talking

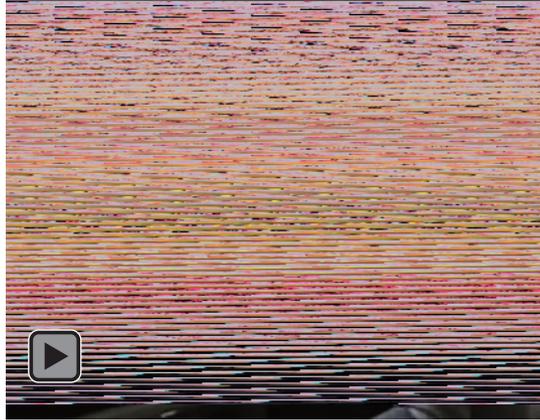
The following video clips demonstrate how this category of language and communication manifested itself in a piano lesson with Kalil Olsen:



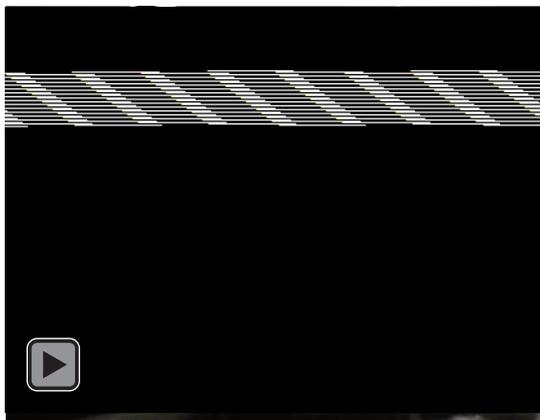
In this example, Olsen "interrupts" my instruction with playing, although my vocal inflection would seem to suggest instruction and explanation with the phrase "So, our counting here..." While upon first observation it seems as if Olsen is displaying rudeness by rehearsing a passage while I offer instruction, it later becomes clear that he is simply attempting to execute the passage in the correct way I described, despite his misunderstanding of this rhythm. As is the case with many students, an "experience before understanding" model of instruction works particularly well with Olsen. After clapping and counting with me a number of times, the rhythmic pattern in question becomes clearly understandable, and easy for him to execute. An open instructional structure as is demonstrated here is frequently useful in piano

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lessons with Olsen in order to most successfully convey musical concepts.



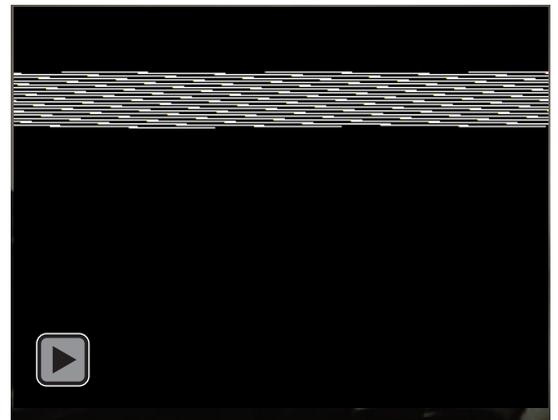
While I give verbal instructions about his weekly assignment, Olsen seems to not be paying attention while gently playing two notes on the piano. A few moments into this discussion, it becomes clear Olsen has become consumed with the improvisation he has started. I attempt to harness his distraction and subsequent creativity with information about the patterns he is playing. In moments like this, it frequently seems as if Olsen is not retaining the bits of information I am conveying; however, in later lessons, He often times displays understanding of these concepts through playing and discussion. Harnessing the frequently non-linear thought patterns of a student with Asperger's Syndrome can be challenging for a teacher, but can provide valuable additional moments of instruction when approached with a sense of instructional perception and open-mindedness.



When I ask Olsen for a verbal answer regarding the dynamic of a trumpet for sound-imitation purposes, he not only answers briefly with a "no," but also immediately demonstrates how a trumpet imitation on the piano might sound. These frequent instantaneous demonstrations on the piano can be occasionally frustrating to a teacher giving verbal instruction, yet can provide a clear picture of whether or not a student like Olsen can comprehend and execute a certain specific musical concept.

Category #2: Talking In Monologues/Commenting On Own Actions/Talking To Himself

The following video clips demonstrate how this category of language and communication manifested itself in a piano lesson with Kalil Olsen:

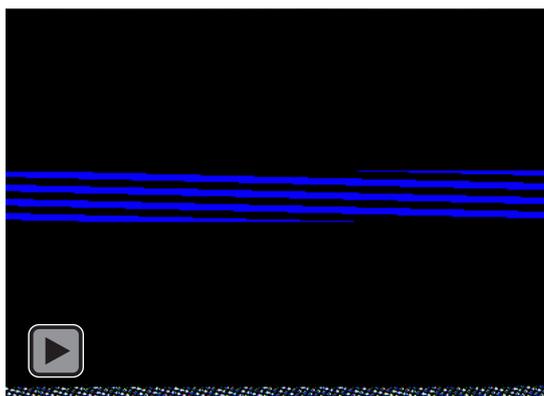


As Olsen attempts to successfully play this section of his piece a number of times in a row, he describes, to himself, at the end of the clip, the exact reason he made a simple mistake in the right hand. I could not immediately discern his mistake, so his commentary on his own actions proved particularly helpful here. An openness to what might initially sound like chatter and talking-out-of turn can often times help a teacher better understand the difficulties a student may be having.

Category #3: Deviant Modulation (Monotonous) And Articulations (Overexact)

Musically and instructionally, the manifestation of this trait I see in piano lessons with students on the autism spectrum is either excessive difficulty in unlearning a mistake or difficulty explaining a concept, while at the same time possessing particular skill in demonstrating it.

The following video clips demonstrate how this category of language and communication manifested itself in a piano lesson with Olsen:



Olsen has difficulty expressing his extensive understanding of the term "imitation" from the title of "Imitation and Inversion" by Bela Bartók, but demonstrates the concept particularly well in a short improvisation demonstration and his performance of the piece. In this short discussion, Olsen finally demonstrates verbally his understanding of the concept, further extracting the concept of imitation from the work through this call and response demonstration.



The correction and demonstration of consistency in the final passage of this work was of a particular challenge. As is demonstrated in this situation, repetitions with a goal of consistent correct performance proved to be particularly effective. Routine and the practice of a regular and strong habit are frequently present in students on the autism spectrum. Because of the particular difficulty in unlearning mistakes Olsen demonstrated, additional weekly lessons have become particularly helpful when he is quickly learning new repertoire.

Music Lesson Applications For Students On And Off The Autism Spectrum

Olsen exhibits particular characteristics at the piano and in teacher/student communication that are common to someone on the autism spectrum. He has a keen native ability at the instrument not seen in many students who have been studying for as brief a period as he has. He understands many of the elements of touch and articulation with minimal or no explanation or demonstration. His tone is infrequently harsh, or too soft. Olsen relies heavily on his hearing to learn new works and on both the visual and aural aspects of the demonstration of new pieces. Since the beginning of his studies, he has struggled with pitch recognition in both intervallic reading and specific note identification. Olsen occasionally becomes obsessed with drilling those things he is good at, especially his improvisations. When he internalizes a piece, it is very solid, and his performances become particularly personal and unique.

As is common to many students on the autism spectrum, Olsen has difficulty with interpersonal communication, and particularly struggles with non-verbal cues and non-literal speech, including figures of speech. As an example, it is much more effective to simply explain the sheer mechanics of a staccato touch to him rather than describing a passage as "dry." Similarly, Olsen is very honest. If my studio is a bit of a mess, he will simply tell

me. While this may at first seem like insensitivity and a lack of manners on his part, he is simply stating facts to me about his surroundings in an honest way normal to his usual mode of interpersonal communication.

Olsen, and other similar students on the autism spectrum I have taught, possess strengths that play well into musical study. As mentioned before, his physical approach is organic and obtained more easily from musical imagination than abstract technical study. Olsen's rhythmic instinct is outstanding. His pulse-feel is solid from the beginning of his study of a piece through mastery. Olsen is passionate about his study of the instrument, and is infrequently bored.

His enthusiasm serves as inspiration to other students in my studio. Olsen has a sharp, creative mind, and finds joy and musical satisfaction in improvisation and composition. As a particular example, Olsen took great joy in seeing his improvisations notated after playing a few of them on a digital keyboard into my computer using the notation program *Finale*.

While these strengths are numerous, students on the autism spectrum like Olsen also typically have areas of weakness that can prove to be difficulties for a teacher. He is a perfectionist to the point where even the smallest mistake can be devastating to his self-esteem. A plan of action for dealing with this perfectionism is a necessary tool for a teacher working with a student like him. These types of situations can become effective jumping off points for discussions about realistic goals and expectations. Olsen frequently learns incorrect fingerings and uses finger combinations that first come to him when learning a new work. Examples of this include 2 over 3 combinations, 3 over 4 combinations, and 4 over 5 combinations. Amazingly, he makes effective use of these unorthodox fingerings, making unlearning such situations even more difficult.

In general, it is difficult for Olsen to unlearn

mistakes, so it has been important to find effective solutions for accurate initial learning including increasing the frequency of his lessons to more than once a week and assigning a piano pedagogy student to serve as a piano tutor at his home. This last tactic has proven to be particularly effective, as Olsen has begun to learn the importance of accurate practicing in a regular, systematic way.

My hope for Kalil Olsen, and other students I work with on the autism spectrum, is that the piano will become a vehicle for the empowerment of their self-esteem as it relates to all of the learning they do in the course of their education. It has become evident to me that Olsen's greatest challenge is a lack of willingness to develop tactics for obtaining new skills at the piano and in other subjects at school. I'm confident his excitement and ability at the piano will serve as a model for the rest of his educational life in a way where he will experience empowerment and confidence with each newly introduced skill. While this is a universal theme in all great piano teaching, the stakes with a student with a developmental disorder like Asperger's Syndrome are potentially higher.

The work my students and I have done with Olsen and with other students on the autism spectrum has many important implications for studio piano teachers. Students with Asperger's Syndrome and other autism spectrum disorders are frequently drawn to musical study, but are even more frequently misunderstood by teachers as being badly behaved, disrespectful or even more unfortunately untalented and unfocused. A basic understanding of the mind of a student like this will surely eliminate these misunderstandings. Additionally, teaching students on the autism spectrum provides teachers with a challenge that can be stimulating and ultimately rewarding. Fresh thinking about the same concepts taught to all students forces a teacher to reconsider musical rudiments from a new angle that may ulti-

mately benefit students in a teacher's studio both on and off the autism spectrum. College piano pedagogy courses should also consider including students with special needs in practicum experiences in order to better train future piano teachers the sensitivity and skill-set needed to most effectively serve these types of students. Most importantly, effective teaching of a student with Asperger's Syndrome can give this student the chance to be expressive and creative, potentially improving their entire life through the empowering pursuit of music. ◀◀

Notes

1. Kathrin Hippler, Christian Klicpera, "A Retrospective Analysis of the Clinical Case Records of 'Autistic Psychopaths' Diagnosed by Hans Asperger and His Team at the University Children's Hospital, Vienna," *Philosophical Transaction: Biological Sciences*, Vol. 358, No. 1430, Autism: Mind and Brain (Feb. 28, 2003), pp. 291–301.

2. Lorna Wing, *Autistic Children: A Guide for Parents & Professionals*, (London: Constable Publishers, 1981), 70.

3. Toth K, "Asperger's syndrome: diagnosis and treatment," *American Journal of Psychiatry*, Vol. 165, No. 8, pp. 968–963.

4. Carina Gillberg, Christopher Gillberg, "Asperger Syndrome—Some Epidemiological Considerations: A Research Note," *Journal of Child Psychology and Psychiatry*, Vol. 30, No. 4, pp. 631–638.

5. Autism Society of America, "Autism Society of America: Pervasive Development Disorders (PDD)," http://www.autism-society.org/site/PageServer?pagename=about_what_is_PDD

6. (Autism Society of America)

Derek Kealii Polischuk is assistant professor of piano and director of piano pedagogy at the Michigan State University College of Music. Praised as a "consummate keyboard artist" and an "important young talent," Polischuk's performances have gained critical acclaim in California, throughout the Midwest and in Hawaii at the Prince Albert Chamber Music Festival on the island of Kauai. As a prizewinner in the Carmel International Piano Competition and the California International Young Artists Competition, Polischuk's performances have been broadcast on public radio in Michigan and California.



Born in San Diego, Polischuk studied with Krzysztof Brzuzza before attending the University of Southern California Thornton School of Music, where he received the doctor of music arts degree with distinction under the tutelage of renowned piano pedagogue and concert artist Daniel Pollack. Upon his graduation from the Thornton School in 2006, Polischuk was awarded the keyboard department award for Most Outstanding Graduate.

An enthusiastic supporter of the education of young musicians, he has presented at meetings of piano teachers in the United States and Canada, including the Music Teachers National Association, the Multidisciplinary Research in Music International Conference, the National Group Piano and Piano Pedagogy Forum and the Michigan Music Teachers Association on the topics of improvisation, piano lessons for students with autism, and outreach and engagement as part of the piano pedagogy curriculum. Polischuk has been a judge of piano competitions throughout the country, and has mentored young students who have become prizewinners in piano competitions throughout the region. At Michigan State University, he has developed a stimulating piano pedagogy curriculum that is anchored by the teacher-training program "Pianoissimo" in which piano pedagogy students have the opportunity to hone their private and group piano teaching skills while working with underserved young pianists from urban Lansing and Detroit. During summer months, he teaches courses for the Michigan State University Office of Study Abroad, most recently in Quebec City.