

***A Multifaceted Approach to Complex Needs:  
Targeted Interventions for Gifted Students With Autism***

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**Abstract**

Recent studies have focused on identification of gifted students with ASD and on their learning experiences; however, there appears to be a gap in the research regarding effective interventions for these students. Most intervention strategies target either the student's giftedness or their ASD diagnosis, but their unique challenges require targeted interventions that extend beyond those designed for students with a single exceptionality of either giftedness or autism. The purpose of this study was to determine the efficacy of targeted, multi-faceted interventions designed to address the complex, often contradictory needs of a gifted student with ASD. The study used a single-subject research design, which took place over the course of two school years. Targeted interventions were designed and implemented to address the specific needs of a 9-year-old male BIPOC student, who had received an ASD diagnosis at age 3, and who was subsequently identified as highly gifted at age 7. A literature review, which looked at the identification of gifted students with ASD and how these dual diagnoses impact their experiences in school, informed the design and implementation of interventions. Practitioners conducted interviews with the student, parent, and teachers, which uncovered differing understandings and expectations that contributed to school avoidance, frustration, and anxiety on the part of the student. In collaboration with the parent, teachers, and student, a series of interventions were designed to address this student's specific needs. Behavioral observations, progress monitoring, and pre- and post-intervention interviews were collected as evidence to determine the effectiveness and relevance of the interventions.

Keywords: Autism Spectrum Disorder, Gifted Education, Special Education, Twice-Exceptional Students

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## **Introduction**

Meeting the educational needs of students with complex learning profiles and multiple diagnosed exceptionalities is challenging even for experienced teachers. Students who are gifted and who also have an Autism Spectrum Disorder (ASD) diagnosis present unique challenges to teachers, as they typically require remedial instruction in some areas yet crave advanced work in other areas. As a result, the learning experiences of gifted students with ASD can be marred by frustration caused by unmet needs or underdiagnosed challenges. Recent studies have focused on the identification of students who are gifted and who also have an ASD diagnosis (Burger-Veltmeijer, Minnaert, & Van den Bosch, 2015). Wo, Lo and Tsai (2019) noted that teachers often focus more on remediation of ASD-related deficits than on nurturing the academic potential, which can lead to frustration and anxiety for the students. Cain, Kaboski & Gilger (2019) identified the underutilization of appropriate services by gifted students with ASD and lack of teacher understanding of the needs of twice-exceptional students as concerns. However, little research has been conducted on how the needs of gifted students with ASD can be effectively addressed. The purpose of this study was to design and evaluate the efficacy of a targeted intervention plan that addresses the specific needs of a 9-year-old male student who is highly gifted and has ASD.

## **Methods**

The study used a single-subject research design, which took place over the course of two school years. Design and implementation of the interventions were informed by the research of Burger-Veltmeijer, Minnaert, and Van den Bosch (2015), Wu, Lo and Tsai (2019) and Cain, Kaboski and Gilger (2019), which looked at the identification of students who are both gifted and have ASD and how these dual diagnoses impact their experiences in school.

## **Student Profile**

The student is a 9-year-old BIPOC male of Filipino heritage. Both his parents were born in the Philippines and immigrated to Canada before he was born. The mother works as an office manager in Vancouver, Canada and is the student's main caregiver. The father is a US citizen who works in Seattle, Washington and commutes home on the weekends. The student was born in Canada and speaks both English and Tagalog at home. The family is also devoutly Roman Catholic.

The student has a complex profile of medical and learning needs. He has a chronic health condition that makes him immunocompromised, which caused particular stress at the onset of the COVID-19 pandemic. At age three, he was diagnosed with a developmental coordination disorder (DCD). At that time, he also received an ASD diagnosis. Subsequently, at the age of seven, he received a psychoeducational assessment and was identified as highly gifted with a Full Scale IQ of 144.

## **Data Collection**

The study used multiple modes of data collection at the pre- and post-intervention stage. Data were collected from interviews, behavioral observations, school attendance, family background, educational history and experiences, and student/parent questionnaires. Pre-intervention data were used to identify the student's current level of performance and specific needs as well as the goals, concerns, and expectations of the student, parent, and teacher. The

information was then used to design targeted interventions. Post-intervention data were then used to evaluate the effectiveness of the interventions and measure the student's overall progress. Weekly debriefing sessions, self-evaluations, and progress monitoring took place during the intervention to determine if and when adjustments and 'fine-tuning' of goals were needed.

## **Interviews**

Interviews were conducted with the student, parent, and teachers, which uncovered differing understandings and expectations that contributed to school avoidance, frustration, and anxiety on the part of the student. The student's early educational experiences and the parent's interactions with the school contributed to concerns about how the student was being supported and impacted the family's relationship with the school, which hindered collaboration.

## **Early Educational Experiences**

In Kindergarten, the teacher focused heavily on social interactions and fine motor skills. The student had not yet been identified as gifted, and therefore he did not receive any enrichment opportunities or acknowledgement of his intellectual abilities. The assumption was that his speech and reading skills were echolalic and hyperlexic. There was also concern that he struggled to draw. For in-school supports, he received speech and language therapy for articulation and occupational therapy for his fine motor skills. The resource teacher led social groups with the student and two of his classmates who also had ASD. However, his high-functioning ASD profile was vastly different from those of the other two classmates, who were quite low-functioning. As a result, the social group activities were well below the student's level of performance and caused a lot of frustration for him. The lack of extending enrichment opportunities further added to his frustration and contributed to him feeling misunderstood. At this time, the mother became very upset that her son's ASD diagnosis meant he was grouped in with students with much more significant needs.

In first grade, the teacher acknowledged the student's advanced math and reading skills and a psychoeducational assessment was recommended. In-school social groups continued as did support from the speech and language pathologist (SLP). Occupational therapy now took place outside of school. At the end of first grade, the parents arranged for a private psychoeducational assessment, which took place during the summer prior to starting second grade. The student was identified as highly gifted, and the second-grade teacher provided enrichment opportunities during Language Arts. The student also began to receive individualized gifted programming in Math and Science. During this time the student and parent became happier about his school experiences. When the school transitioned to online learning at the start of the COVID-19 pandemic, the student received regular one-on-one sessions via Zoom that focused mostly on enrichment.

## **Expectations and Concerns**

As part of a collaborative approach to intervention design, the student, parent, and teachers were all interviewed to determine their expectations and concerns about the student and his education. The interviews revealed significant differences in each person's understandings and priorities. The student's main concerns centered around his gifted label and making sure he was living up to the associated expectations. He continually wanted to know that he was

working at a higher grade level, and he was very concerned about making mistakes, exhibiting perfectionism. The student was also concerned about his social relationships. Due to his sophisticated sense of humor and knowledge of advanced topics, he preferred making connections with adults. However, he expressed a desire to relate to his peers but struggled to do so. These concerns and expectations led to school avoidance, frustration, and anxiety.

The parent, on the other hand, was most concerned about the school's and other students' perceptions of her son. She was worried about him becoming a scapegoat and being blamed for any instance of misbehavior in the class. She was also concerned about a lack of extension activities. She worried that the school was only concerned about her son's ASD and was not prioritizing his giftedness. Finally, despite the parent's sometimes strained relationship with the school, her devout Catholicism meant that she really wanted him to stay in a faith-based school.

The greatest concerns for the teacher were the student's executive functioning and social skills. In particular, the teacher was concerned with the student's lack of organization, independence, and self-regulation. She was also worried about the student "lying" when he told stories or gave accounts that were exaggerated or inaccurate. This was partly due to his black and white thinking and tendency to escalate situations in his head. Another big concern for the teacher was the student's peer relationships. The classroom teacher also had differing expectations of enrichment work than the parent and learning support teacher. She wanted the student to complete all his grade level work before moving on to enrichment activities.

### **Targeted Intervention Plan**

The intervention plan was developed in collaboration with the student, parent, and teachers to address the student's specific needs. Drawing on multiple sources of information, the intervention plan used a collaborative, competency-based, and holistic approach. Interventions were developed to target both the students' giftedness and ASD-related needs.

An important part of the intervention plan was including and valuing the student's input. The student was given agency in the learning process and in selecting math and science topics. This increased the student's engagement and participation as he was able to choose and pursue enrichment opportunities of high interest. The student's giftedness and high level of curiosity often lead him to jump from topic to topic as he feels bored easily and wants to explore new things. As part of working on executive functioning and task perseverance, the student was required to create a plan and step-by-step timeline for every topic he chose. The student then entered into a 'contract' to fully finish the selected topic and related tasks before moving on. This gave the student a sense of responsibility and accountability. By creating a concrete agreement and explaining the purpose and importance of said agreement, there was greater buy-in from the student, who liked having responsibility and felt more 'advanced' because there was a formal plan and 'contract'.

Another central aspect of the intervention plan was clear, ongoing communication with the student, teacher, and parent. A clear explanation of the purpose and goal of each intervention was provided to everyone, including the student. As a highly gifted child, the student is very perceptive and analytical. Therefore, having honest conversations and providing candid explanations were integral in the interventions. To encourage active student participation in interventions, we used the child's passions and post-secondary goals to frame the need for and importance of interventions that he found frustrating or trivial. Communications with the

parents were re-framed in a competency-based, positive manner that placed the student's challenges within the broader context of his giftedness. Student and parent input was a central component of the intervention process in order to increase participation, mitigate anxiety and confusion, foster mutual understanding and 'buy-in', and minimize student frustration and task-avoidance. This involved collaboration in the development of interventions and during ongoing monitoring and adjustments.

In order to address both gifted and ASD-related needs from a holistic perspective, enrichment projects were used as opportunities to nurture gifted potential as well as to work on areas of challenge, including social and conversational skills, turn-taking, emotional regulation, and executive functioning. This provided a strengths-based framework for the student to develop areas of relative weakness. It also gave the student a better understanding of how the areas he finds challenging can contribute and add value to his preferred interests. The student practiced cooperation, turn-taking and conversation skills while discussing enrichment interests and brainstorming research ideas. In enriched science projects chosen by the student, lab reports and case studies were used to help improve written output, planning, and organizational skills. Further, the student's interest in advanced math concepts was used to encourage a growth mindset. While being introduced to unfamiliar, high school-level math topics, the student learned about the zone of proximal development and scaffolding. Using the concepts of scaffolding and zones of proximal development helped the child reframe his mistakes and made him more willing to ask for help. Enriched math was also used as an opportunity to develop planning and organization through multi-step word problems. At home and in the classroom, executive functioning skills were further supported by using checklists and student check-ins. Due to COVID-19 restrictions, playgroups and most social skills activities were not feasible.

### **Preliminary Results**

The record of attendance was compared pre- and post-intervention and showed improvement. In-class observations revealed an increased participation and cooperation with peers following the interventions. Following the implementation of the intervention plan, the student expressed increased enthusiasm to attend school and school-avoidance decreased. The student became more engaged and collaborated in his learning process. There was a large improvement in the student's one-to-one conversational skills, patience, and turn-taking. The student also showed increased self-monitoring and acknowledgement of his executive functioning goals and needs. Similarly, the student showed greater self-awareness of his emotional-regulation needs and a desire to develop coping strategies. What's more, the student exhibited a stronger growth mindset and was more willing to ask for help and admit when he was wrong. There were improvements in the family-school dynamic as well. The parents became more receptive and collaborative with the teachers and school.

### **Conclusion**

The preliminary results indicate the need to consider all factors that are impacting a student's functioning at the pre-intervention stage when designing an intervention plan. Open communication and collaborative, interactive planning with all parties, including the student, parents, and teachers, are key components of effective implementation. Ongoing evaluation and fine-tuning of goals are important to ensure continued efficacy of and engagement in the intervention plan. The results also highlight the importance of promoting student and parent agency throughout the process. Holistic interventions that address both the student's

giftedness and ASD-related needs, such as enrichment opportunities that incorporate goals and activities targeting areas of challenge, have the potential to reduce student frustration and anxiety and increase student participation and buy-in. The targeted, holistic approach outlined here offers an alternative to more traditional strategies that target only one exceptionality or the other, which can result in the child's needs not being fully met.

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