

IDENTIFYING TWICE
EXCEPTIONAL
STUDENTS AND
MEETING THEIR
NEEDS IN A
MATHEMATICS
CLASSROOM

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High Functioning Autism

High-functioning autism (HFA) refers to a diagnosis of autism with an IQ of 70 or greater (APA, 2013). These students tend to get along quite well with younger children, their teachers, and other adults and may be cooperative at school, not difficult to manage and teachers may not be aware that they have any difficulties. (Baron-Cohen, Scott, Allison, Williams, Bolton, Matthews, & Brayne, 2009; Church, Aisanski, & Amanullah, 2000).



We will be looking at students who are academically gifted who also have High Functioning Autism. You may be more familiar with term Asperger's Syndrome. This term was eliminated in the new DSM-5.

The term **twice exceptional** has only recently entered educators' lexicon and refers to intellectually gifted children who have some form of disability. For the purposes of this presentation, we will be looking at **Autism Spectrum Disorders**.



WHAT IS A TWICE EXCEPTIONAL STUDENT?

IDENTIFYING TWICE EXCEPTIONAL STUDENTS AND MEETING THEIR NEEDS IN A MATHEMATICS CLASSROOM


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Typically, HFA causes the greatest disability in late childhood and adolescence when social relationships are the key to success in most areas of life (Barnhill, 2001).

Individuals with HFA perceive the world differently from their neurotypical peers and often do not have the skills to engage in age-expected reciprocal social interactions (Carrington, Templeton & Papinczak, 2003).

Characteristics of HFA

- There is a correlation between visual-spatial abilities and autism.
- These associations can result in high-level skills and expertise in areas such as computing, engineering and mathematics (Grant, & Davis, 2009).



• A significant proportion of individuals with HFA demonstrate superior abstract reasoning ability or higher general fluid intelligence as well as frontal executive function, attentional control and working memory (Dawson et al, 2007).



SOME POSITIVES ABOUT STUDENTS WITH HFA

- They have real persistence in gathering and analyzing information on a topic of interest and can memorize facts easily
- They have clarity of values/beliefs making them hard to pressure, peer pressure or financial gain
- They seek sincere, positive, genuine friends with an unassuming sense of humor
- They are loyal and honest with impeccable dependability
- They are renowned for being direct, speaking their mind, being honest, determined, and having a strong sense of social justice
- They are unconventional problem solvers and afraid to ask wild questions or examine solutions that appear to have little hope of working
- They have an interest in helping others

In other words these students may have extraordinary mathematics abilities and limited social skills.





- Overall, for boys and girls together, for every three known cases of ASD there are at least two undiagnosed cases (Baron-Cohen et al, 2009).
- It is estimated that about 50% of children with HFA reach adulthood without ever being evaluated, diagnosed, or treated (Khuzan et al, 2004). These students comprise the majority of older, unidentified students with ASD.
- Female and gifted students remain a particularly undiagnosed subset of this population (Lai et al, 2011; Mayes & Calhoun, 2011).

- There are two possible avenues of identification for children with HFA, through medical professionals and through educational evaluations.
- Teachers and other educators usually provide the first access to educational services. Children with HFA may go unnoticed until they are of school age, when teachers notice difficulties with peer interactions (Johnson & Myers, 2007).

- Female children may be harder to diagnose because they tend to camouflage their social skill difficulties by watching and then imitating other socially competent peers (Cooper & Hanscock, 2009; Filipek, Accardo, Baranek, Cook, Dawson, Gordon et al, 1999).
- As a result, girls with HFA are often diagnosed at an older age (if at all) (Gom-Kochel et al, 2006).



THESE STUDENTS ARE POOR JUDGES OF CHARACTER AND ARE SOCIALLY VULNERABLE. SOCIAL VULNERABILITY AND NAIVETE OFTEN RESULTS IN EXPLOITATION AND BULLYING.



MOST TEENS AND ADULTS WITH HFA ACKNOWLEDGE A STRONG SENSE OF CONFUSION AND DESPAIR WHEN IT COMES TO FITTING IN SOCIALLY.



LEVELS OF CONDUCT AND OVER ACTIVITY SYMPTOMS ARE OFTEN SO HIGH THAT THESE ADOLESCENTS ARE SOMETIMES MISDIAGNOSED AS HAVING CONDUCT DISORDERS, ADHD, OR DEPRESSION.



HFA children evidence difficulties in social cognition and in reciprocal peer interaction including the child's ability to spontaneously read and correctly interpret verbal and nonverbal social and emotional cues.

WHY IS IDENTIFICATION IMPORTANT?
OR
IF THEY ARE PASSING MY CLASS DO THEY REALLY NEED INTERVENTIONS?



Twice Exceptional Students
Another group of under identified students with HFA are twice-exceptional gifted students. This is often because it may appear that a child's unusual development is a result of giftedness, not autism (Fenderson, 2007; Neihart, 2000).

Adults with AS valued and desired in friendships more than anything in their lives, yet few had the ability to maintain acquaintances, let alone friends.

STUDENTS WITH HFA, ESPECIALLY FEMALE STUDENTS, REMAIN HIGHLY UNDER-IDENTIFIED.

CHILDREN, WITH HFA, WHO RECEIVE INTERVENTION SERVICES ARE MORE SOCIALLY AND EMOTIONALLY COMPETENT AND SUCCESSFUL WITH PEERS IN ACADEMIC SETTINGS THAN ARE THEIR COUNTERPARTS WHO DO NOT RECEIVE SUCH SERVICES.

CHALLENGES FACED BY TWICE EXCEPTIONAL STUDENTS



THESE CHALLENGES ARE EXAGGERATED WHEN CHILDREN WITH ASD ARE INTELLECTUALLY GIFTED CHILDREN BECAUSE THE DISCREPANCY BETWEEN THEIR INTELLECTUAL AND DEVELOPMENTAL ABILITIES BAFLES PARENTS, TEACHERS, AND PEERS.

TEACHERS AND EDUCATORS ARE USUALLY PROVIDE THE FIRST "PORT OF CALL", FOR ACCESS TO EDUCATIONAL SERVICES.





Children with HFA typically interact well with those younger than themselves and with adults, but are usually not successful in maintaining friendships with peers.

- Focus on single topic of interest that may not be of interest to others
- Inappropriate facial expressions or gestures
- Lack of understanding of social cues and subtleties
- Literal interpretation of others' words
- Obsessive and narrowly defined interests
- Poor judge of personal space – may stand too close to other students
- Poor problem-solving and organizational skills

- **Social Challenges**
- Abnormal inflection and eye contact
- Difficulty differentiating relevant and irrelevant information
- Difficulty engaging in reciprocal conversation
- Difficulty interpreting others' nonverbal communication cues
- Difficulty understanding social nuances such as sarcasm or metaphor
- Difficulty with fine-motor skills, such as handwriting



HOW DO THESE STUDENTS PRESENT IN CLASS?

- Some teachers did not believe that accommodations would be allowed in an AP or college environment. Others indicated that once they teach the "high-end" students, HFPs did not return to them.
- In the case of the twice-exceptional student, the best restorative environment may include participation in AP or the college credit classes.
- Some students reported that there were AP teachers who made the accommodations for them or who encouraged them from accepting their accommodations. Parents also reported that students were denied accommodations.

- Educators often focus on remediation in students' HFPs, taking the focus off other objectives that are related to students' academic strengths.
- To reach their full potential, twice-exceptional students need a balanced educational program that nurtures their gifts and talents while providing interventions for their disabilities.
- The structure of the American school system frequently precludes students from participating in both gifted honors and special education programs.
- Guidance counselors and parents often advised students with disabilities to enroll in classes that were not consistent with their postsecondary goals and/or discouraged their interest in careers requiring college.

Total the numbers you have entered on the ASC-S.

Scoring

After the user has been instructed, total the scores on the page. Transfer the total to the box below.

Scoring Box

Total Score = _____

ASC-S Interpretation

1-30	Below the average
31-34	Within the average
35-40	Exceeds the average

Compare the total to the interpretation guide below for results.

Think of that student you have had that matches the descriptions of HFA. Take a few minutes and fill out the ASC-S assessment in your handout.

Symptoms may include early precocity, a great ability to maintain masses of information, a lack of ability to mix with groups in age-appropriate ways, ignorance or indifference to social norms, high intelligence, and difficulty with transitions, paired to a precocious ability to concentrate on the minutiae of the task at hand.

THE IDENTIFICATION PROCESS



Students with High Functioning Autism are very bright and eager kids who can be motivated to do well in the classroom. However, lack of social skills and obsessive behavior can make it difficult at times for them to meet the expectations of their educators. With patience and understanding, the educational experience of these kids can be a positive one.

1. The teacher uses motivation. For one reason that a student who has IFA will automatically understand what you mean.
2. Any change will involve social for a student with IFA. Make an effort to provide realistic assessment and avoid making changes.
3. Use low level expectations regardless of the assignment.
4. Praise and make use of the child's verbal and nonverbal skills. Praise can be used to make your lesson subject the source of working and using the child's experience to make your lesson and subject.
5. Be persistent, consistent in your requests and holding.
6. Most of the classroom prepared to allow a work, but students with IFA will have difficulty with processing and language quality, so providing classroom ready one to many helps.

ASSESSMENT

The school psychologist should perform a complete assessment to determine eligibility. Compounding the issue for twice-exceptional students, it is rare for professionals to be trained in the identification of IFA and in the identification of cognitive and/or academic giftedness. (Nicolson et al., 2011)

MEETING THE NEEDS OF TWICE-EXCEPTIONAL STUDENTS IN A MATHEMATICS CLASSROOM



CHILD STUDY TEAM

1. Identification and referral. When a child is suspected of having a disability, a referral, which is a written or oral request for an evaluation, is given to the school's child study team.
2. Eligibility. The school's child study team then evaluates the child to determine whether the child has a disability as well as the nature and extent of the special education and related services that that child needs.
3. Determination of eligibility. Based on the results of the evaluation, the team decides if the child is eligible to receive special education and related services. To be found eligible, the team must decide that the child has a disability and as a result needs special education and related services.

4. Determination of an individualized education program (IEP) and determination of services. If the child is eligible to receive special education and related services, the team then develops and implements an appropriate IEP to meet the needs of the child. The IEP must be reviewed and revised at least annually.
5. Reevaluation. At least every three years, the team must reevaluate the child to determine whether the child continues to need special education and related services (FDOE, 2010, p. 81).

AASC-ST

Teacher/Educator Form

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CHILD'S NAME: _____

DATE: _____

COMPLETED BY: _____

The Autism Assessment Scale for Children contains a series of statements for you to rate a child's behavior on a scale from 0 to 10. A score of 0 represents no problems or difficulties with this characteristic, a score of 5 represents moderate problems, and a score of 10 represents severe problems. Please rate these statements to reflect this child's behavior during the current school year.

Ratings--Please rate from 0 to 10 on the characteristics listed below
 0 = No Problems/Difficulty, 5 = Moderate Problems/Difficulty, 10 = Severe Problems/Difficulty

Student Characteristic

Will not stay an appropriate distance from a person	
Difficulty being fair (will argue a point)	
Problems following group rules	
Difficulty taking his or her turn	
Difficulty or inappropriate complimenting	
Difficulty or inappropriate offering of help, comfort	
Problems asking for feedback or inappropriate requests for praise	
Problems asking someone to play or do an activity	
Doesn't understand the concept of being polite	
Doesn't understand the concept of being kind	
Doesn't understand the concept of being considerate	
Problems in crowds	
Is sensitive to light	
Over-sensitive to sounds	
Dislikes the feel of certain clothing	
Needs help to problem solve	
Problems understanding jokes	
Difficulty when someone is speaking too fast	
Problems with reciprocal conversations	

