

Who Are the Twice Exceptional Among Us?

When we think of twice exceptional learners, we probably need to start with some definitions and a case study – or two – up front. The definition shared here comes from the [Project 2Excel \(Links to an external site\)](#). research study conducted in Minnesota from 2009 – 2012 by Karen Rogers. Her definition is as follows:

A twice exceptional individual is one who is above average in ability and exhibits a disorder or disability that prevents him or her from maximizing that intellectual potential. We can characterize this general definition as individuals who are 2e.

In general there are **four** likely forms of twice exceptionality that we deal with most frequently in gifted education.

Gifted with:

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| <p>Attention-Deficit With or Without Hyperactivity [GT/AD(H)D]</p> | <p>an individual with above average intellectual ability who exhibits an inability to focus or inability to control physical impulses, or both, to a degree that prevents him or her from maximizing that intellectual potential in expected performance</p> |
| <p>Specific Learning Disability (GT/SLD)</p> | <p>an individual with above average intellectual ability who shows a large discrepancy in academic performance in one or more domains to the point that he or she is unable to maximize his or her intellectual potential due to this learning disability (e.g., dyslexia, dyscalculia, dysgraphia)</p> |
| <p>Autism Spectrum Disorder (GT/ASD)</p> | <p>an individual with above average intellectual ability who exhibits inappropriate social interactions, repetitive mannerisms, an inability to draw inferences or think abstractly, and/or an inability to filter stimuli in a complex environment that interferes with maximizing his or her potential into expected performance</p> |
| <p>Emotional or Behavioral Disorder (GT/EBD)</p> | <p>an individual with above average intellectual ability who shows maladaptive social</p> |

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| | interactions or behavioral disorders to such a degree that he or she cannot maximize intellectual potential into expected performance |
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Let's consider some case studies to more deeply understand these learners, and how their characteristics might manifest in the classroom.

GT/AD(H)D Learners: Case Study



Case Study: Jacob

When visiting his grandparents, Jacob would literally “gallop” around the main floor of their house, seeming to relish the sounds of the wooden floors beneath his feet. It was difficult for him to “sit through” a meal with family. He ate hurriedly and would ask to be excused to go move around in some other room of the house.

His ability to do mental mathematics was astounding. One could ask him very complicated calculations for which he could almost instantly produce a correct answer and he could explain his thinking, but if you asked him to copy down this thinking onto paper, it just was not going to happen.

Jacob had little patience for long explanations of “how to do this task” at school and often got in trouble with teachers for “not paying attention to the explanations.” Sometimes this led to his doing assignments incorrectly even though, if asked what the outcomes were for an assignment, he could tell you. If the tasks had several steps, he would often miss a step along the way and then not succeed at highest levels overall.

Once in a while, Jacob was given a teacher who seemed to understand that explanations needed to be brief; that periods of sitting quietly had to be short; and that he would need to be given breaks to stand up, work on alternative tasks for a few minutes, or go outside the classroom to jump on a trampoline, skip rope, or do other

strenuous exercise for a period of time. Until middle school, Jacob more often ran into teachers who wanted a “cure” for his impulsivity and high energy levels.

Most of his Individual Education Plan (IEP) was focused on helping him to self-regulate and monitor his own behavior, rather than to work on his strength areas in mathematics and in grasping the big ideas in what he read. Writing was always a painful task for him. His most successful writing attempts happened in 4th grade when a very sensitive teacher allowed him to conduct his famous person research project by making a video. For this he collected visuals, transcripts and used Co-Writer (assistive technology) to develop his “voice overs” for his film. His product was extraordinary and he managed to accomplish all of the teacher’s goals for this project. Writing out a research report was NOT the main task of this project and, luckily for Jacob, he managed to accomplish the teacher’s goals without the painful task of writing it all out.

Jacob’s family quickly learned that he would need supplementary high energy activities outside of school time, to the point that they guarded his “homework” requirements carefully, so that he could spend several hours in both organized and free-time activity outside of school time.

As Jacob has almost completed middle school at this time, he is considered an “above average” student who can manage to keep his work up, is an avid rugby player in school sports, and continues to work on mathematics at lightning speed when allowed to do so mentally. High school bodes well for him, as he now knows how to advocate for his needs by presenting his alternative means of accomplishing his teachers’ instructional goals and presenting himself in his “best light”.

Characteristics of Gifted and AD(H)D



Charting Jacob's Characteristics

When looking at the research on gifted learners with an attention deficit, Jacob exhibits a successful path on the way to being able to maximize his intellectual potential. The chart below indicates the characteristics of GT/AD(H)D and which of these Jacob has

exhibited across his school years thus far. Notice that he does not exhibit all of the research-based characteristics and, as the case study describes, has been able to work with his disability to be successful in his school work. More will be said about what teachers can do to help students like Jacob when we get to our next reading.



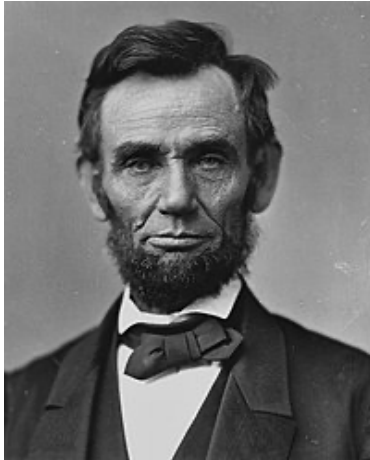
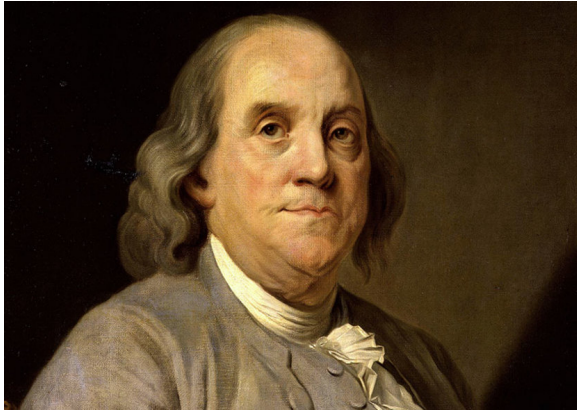
Reflection/Discussion

Discuss or reflect upon whether or not you have a learner in your own classroom or school or in the district that exhibits many of the characteristics described below. How rare is such a child in your school system?

| General Characteristics of GT/AD(H)D | Jacob's Characteristics |
|---|-------------------------|
| Does not finish problems on worksheets because gets too distracted and cannot focus long enough | ✓ |
| Pays attention to less important details of a task and misses bigger picture | |
| Has difficulty approaching a learning task in an organized and efficient fashion | ✓ |
| Has difficulty shifting from one task to the next | ✓ |
| When likes the task, can be energetic and enthusiastic about working on it | ✓ |
| When does not like the task, can be squirmy, fidgety, off-task, get restless, and/or daydream | ✓ |
| Tends, at times, to redirect class topics, talk out of turn, or “butt” into conversations | ✓ |

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| Blurted responses in class are usually correct | ✓ |
| Has lower social acceptance by peers | |
| Low performance that cannot be predicted from innate abilities or intelligence | ✓ |
| Is often distracted by external things going on in class | ✓ |
| Often does not seem to hear what is being said | |
| Poor sustained attention in almost all situations | ✓ |
| Diminished persistence on tasks not having immediate consequences or personal input | |
| Difficulty adhering to rules and regulations | |
| Questions rules, customs, and traditions | |
| Can focus extraordinarily well on specific areas of interest | ✓ |

Successful People with AD(H)D



As one last point about gifted with AD(H)D, there have been many, many people in this category of twice exceptionality who have become famous and successful despite their challenges, including:

- Ansel Adams (photographer)
- Alexander Graham Bell (inventor of telephone)
- Charlotte Brontë (famous author)
- Walt Disney (movie producer, cartoonist, Disneyland/Disneyworld creator)
- Abraham Lincoln (US president)
- Benjamin Franklin (inventor)

- Bill Gates (business and computer technology innovator)
- Lewis and Clark (US explorers)
- Vincent Van Gogh (painter)
- Frank Lloyd Wright (architect)

Gifted and Specific Learning Disorder (GT/SLD) Learners



Case Study: Mandy

While growing up, Mandy seemed like everyone else in her neighborhood: enthusiastic, curious, interested in just about everything, creative, eager to learn, and easy to laugh. When entering school, she quickly found that although she was creative and imaginative with language, she had difficulty learning to read and doing basic math. As the years passed, Mandy discovered that she could not remember math facts, could not tell time nor gauge the passage of time, could not read music, count money, follow directions to a given location, gauge distances, remember movements in athletics or dance, or enter telephone numbers.

At the age of 13, she was diagnosed with the learning disability of dyscalculia that affects the capacity to learn skills based on sequential processing such as math, spelling, and grammar. Through all of this, however, Mandy was seen as a gifted writer even if her spelling and grammar were atrocious. This became her lifeline as she entered the later elementary grades. She recognized that something was “wrong” with her, but her teachers, although encouraging, felt that she just wasn’t putting enough effort into subjects she did not care for so much. Her only saving grace was her creativity and her ability to write beautifully, if not so grammatically correct!

By middle school, she had developed such a set of anxieties that she began to isolate herself from others at school and to remain in the house while at home. As time went on, Mandy was formally diagnosed with a math disability. Support was provided, and she became motivated to try to move forward, publishing a book by the age of 15 and going on a national book tour. Although her social and interactional problems continued, she was motivated to earn acceptance from herself and from others.

Characteristics of Gifted and SLD



Charting Mandy's Characteristics

As we saw earlier with Jacob, Mandy did manage to maximize her potential in writing, despite her many setbacks learning the rudiments of school and having to overcome psychosomatic issues, depression, and anxiety. The chart below indicates the research-based characteristics of students who are GT/SLD. Again, only those characteristics Mandy manifested have been checked. She could just as likely have had a different set of these characteristics, had she a severe reading disability or writing disability. More will be said about what teachers did or did not do for children like Mandy in the next part of this session on twice exceptionality.



Reflection/Discussion

- - - Do you have a learner in your own classroom or school or in the district that exhibits many of the characteristics described here?
 - How rare is such a child in your school system?

| General Characteristics of GT/SLD | Mandy's Characteristics |
|---|-------------------------|
| Low performance that can't be predicted from innate ability or intelligence | ✓ |

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| Deficits in the ability to process or remember information | ✓ |
| Inability to decode words, gain information from the printed page, and/or has a low reading fluency rate | |
| Unwillingness to write down ideas and thoughts | |
| Substantially lower performance in math than age peers | ✓ |
| Substantially lower performance in most sequentially structured subject areas | ✓ |
| Difficulty with multi-step problems, solving word problems, and problems that demand high levels of information-processing | ✓ |
| Lack of progress and response to typical instruction in general education classes | ✓ |
| Considerably slower rate of learning in disability area(s) | ✓ |
| Lower academic performance than general education classmates | ✓ |
| Difficulty in recognizing and manipulating symbols | ✓ |

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| Difficulty in recognizing and attending to specific functions, such as following steps, copying information correctly, etc. | ✓ |
| Difficulty in remembering important information that does not have “meaning” attached to it overtly | ✓ |
| Alienation from age peers due to own anxiety and depression or to perceived differences peers have | ✓ |
| Self-isolation from peers due to own anxiety, depression, and lack of self-esteem and self-confidence | ✓ |
| Sensory or auditory processing issues when presented with new information | ✓ |

Successful People with SLD



As one last point about giftedness when specific learning disabilities in mathematics, writing, or reading are present, there have been many, many people in this category of twice exceptional who have become famous and successful despite their exceptionalities, including:

- Hans Christian Anderson (author)
- Richard Branson (innovative business person)
- Agatha Christie (mystery writer)
- Winston Churchill (famous British prime minister)
- Thomas Edison (inventor)

- Dwight Eisenhower (military general)
- Stephen Hawking (intellectual genius)
- John Lennon (singer and musician)
- Jay Leno (comedian)
- Vince Lombardi (famous football coach)
- Louis Pasteur (scientist)
- Charles Schultz (cartoonist)
- Charles Schaub (brilliant financier)
- Walt Whitman (poet)

Gifted and Autism Spectrum (GT/ASD) Learners



Case Study: Josh

Josh almost always spoke in a slightly monotone voice, quite loudly and vocally. Although he didn't repeat himself very often, he had much to say and any repetitions were in his movements whenever he felt overwhelmed or out of control. He could often be observed at home or when visiting relatives, swirling round and round usually with a stick in his hand. In school, he showed brilliance in concrete subjects such as math and reading, although in later years, grasping the main idea of what he was reading or the concepts behind the more advanced math he was learning, was a little more difficult for him.

Josh needed much time by himself and would often remove himself from social gatherings when he felt he had been there "long enough." Josh had a passion for any electronic gadget, building his own computer at age 11, creating (and selling) a variety of technological applications in his early teens, and craving the latest technological device, no matter its expense! For example, when he acquired the first version of the Smartphone watch, he allowed it to determine when he would exercise and when he would eat. The watch "made the rules" for him to follow and he enjoyed it immensely.

Josh attended a middle and high school that was a technology-oriented magnet school, but quickly ran out of things they could teach him. He was quite vocal about his disappointment, and his family was able to find a university mentor who could help

him continue to move forward beyond what his school could provide. Josh took on what might be called a “social project” for his school during this period, coming up with creative ways to fund the purchase of a 3-D printer and, although he probably used it more than most other students while he remained in the school, it was quite a gift to the school. He was the computer programmer for the school’s robotics team, for which the school placed first in most of the competitions they entered.

Josh had one other passion in his pre-teen and teen age years – to cook in gourmet style. He was a collector of cookbooks and he tried out a multitude of recipes over the years, usually at his grandparents’ house where they could clean up the mess around him. His “Swedish pancakes” are still a tradition in their house at his every visit. Josh might have been perceived as “arrogant” by many around him, but the diligent and patient work of his family helped him develop the social exchange skills he would need to get a job, get along with teachers, and make friends.

At present he resides in a college dorm with 16 other so-called Joshes, who all communicate extraordinarily well with each other, and all major in computer engineering. There is no doubt that this cohort will remain lifelong friends and probably work together in Silicon Valley once they graduate! In some ways, Josh has outgrown some of the repetitive mannerisms he showed in his early years or perhaps has found other, more socially acceptable means for calming himself when the sensory stimuli around him become too much to handle.

Characteristics of Gifted and ASD Learners



Charting Josh's Characteristics

In comparing Josh to the chart (below) that describes the research-based characteristics of the GT/ASD individual, you will note that Josh possesses many of these characteristics, but like Mandy and Jacob, not all of them.



Reflection/Discussion

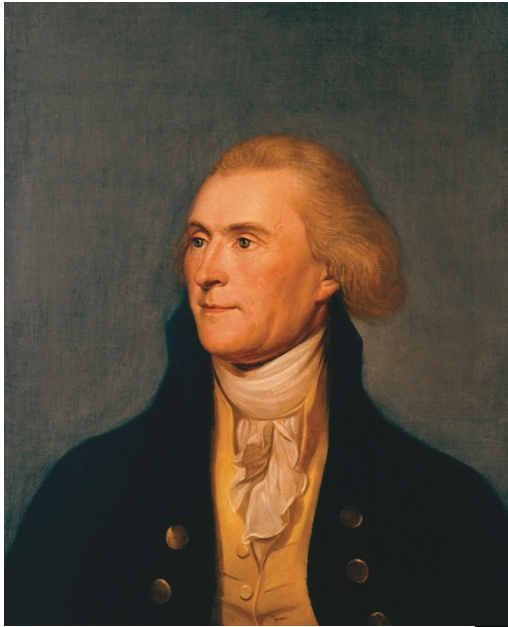
- - - Do you have a learner in your own classroom or school or in the district that exhibits many of the characteristics described here?
 - How rare is such a child in your school system?

| General Characteristics of GT/ASD | Josh's Characteristics |
|--|-------------------------------|
| Gives long, pedantic speeches, mixing fact and personal detail | ✓ |
| Low tolerance for change and will ignore class, school routines if “inconvenient” in his perspective | |
| Seems to understand things literally with more difficulty grasping abstract thinking or inferences | ✓ |
| Little sense of humor | |
| Shows stereotypic behaviors and rituals, obsessions, reactions | ✓ |
| Difficulty falling asleep, easily disturbed when sleeping | ✓ |
| Extreme difficulties with interpersonal relations | ✓ |

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| Superb memory for facts, details related to topics of interest | ✓ |
| Intense focus on primary topics of interest, not much else | ✓ |
| Difficulty in multi-tasking, generalizing | ✓ |
| Deficits in processing speed | ✓ |
| Can be distracted by internal thoughts, difficult to redirect to task at hand | |
| Advanced use of words with lack of comprehension for all words used | |
| Thinks in literal and concrete terms with difficulty in understanding proverbs, metaphors | ✓ |
| Style, content lack reciprocity and engagement of others in their personal interests | ✓ |
| Difficulty understanding the give and take of conversation | ✓ |
| Uninviting verbal style (often with intonation, expression) | ✓ |
| Adheres strictly to rules and needs structure | ✓ |
| Lack of recognition for distressing situations for others | ✓ |
| Actively or aggressively resists change, is rigid | |

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| Limited, unusual clothing preferences | ✓ |
| Limited recognition of others' emotions | ✓ |
| Misreads social situations and social cues | |
| Assumes others share own personal views | ✓ |
| Lacks age-appropriate coordination, usually 3 years behind | ✓ |
| Avoids team sports | ✓ |
| Sensitive to auditory, visual, olfactory, physical sensations | ✓ |
| Inability to see things from another's perspective | ✓ |

Successful People with ASD



As with our other twice exceptional learners, here is a list of people who have “made it” as successful adults. Some have been formally diagnosed, some have described their own ASD characteristics, and some have been described as such in the press.

- Dan Aykroyd (comedian, actor)
- Susan Boyle (opera singer)
- Tim Burton (movie producer/director)

- Lewis Carroll (author)
- Henry Cavendish (scientist)
- Charles Darwin (scientist)
- Albert Einstein (scientific genius)
- Glenn Gould (pianist)
- Temple Grandin (inventor, writer)
- Thomas Jefferson (US president)
- James Joyce (author)
- Michelangelo (sculptor and painter)
- Wolfgang Amadeus Mozart (musician, composer)
- Jerry Seinfeld (comedian, actor)
- Andy Warhol (painter)

Gifted and Emotional Behavioral Disorder (GT/EBD) Learners



Case Study: Katie

Katie comes from a dysfunctional home, containing only her single parent mother, who is angry and seems to blame her own misfortunes on her daughter. Katie is represented by her mother at school as “dumb”, disorganized, and needing to be taught by the school with little help from home. Katie comes to school often very quiet and seeming to be depressed. She appears to have almost a “self-loathing” for herself and her own capabilities, even though she is in an all gifted academic school setting. She tends to take care not to sit close to any of her classmates, grabbing her own location and defending it in the classroom. She tries very hard to please her teachers but has expressed her disdain for most of her classmates, often seeming to take on the attitude of her own mother in her relations with them.

She visibly tries to extricate herself from group projects, either by being passive aggressive in her interactions or by having to be forcibly removed from the group because of her interactions with class mates. She loves to work alone on projects and to read, probably her saving graces at this point in her school career. She seems to

have no trust that others will like her or will want to work with her, so she rejects them first, both with her verbal attacks as well as with her physical rejections of them. At times, it is difficult for her teachers to predict whether or not she will be able to function in the world as a successful adult, although she has many years to go before that will happen. It is hard to decipher whether she wants to have even a single friend or not: her distrust of those around her seems almost overwhelming.

As she ages, will she use language to alienate her peers even more than she does now, or will she be able to mediate her attacks and sarcasm and fit in a bit more? It is hoped that family relationships will improve in time, but at present, it seems unlikely that her mother is going to support her in any way, let alone seem to “like” her. It is also hoped that school will be recognized by Katie as a way out of the morass of her family life as well as becoming her lifeline to a more healthy lifestyle and outlook.

Characteristics of EBD Learners



Charting Katie's Characteristics

The chart below describes the research-based characteristics of the GT/EBD individual. Note that many, but not all, of these characteristics are exhibited by Katie in her own relationships at home and at school.



Reflection/Discussion

- - - Do you have a learner in your own classroom or school or in the district that exhibits many of the characteristics described here?
 - How rare is such a child in your school system?

| General Characteristics of GT/EBD | Katie's Characteristics |
|---|-------------------------|
| Acts and behaves very differently from all norm and reference groups | ✓ |
| Emotional dysfunction affects educational performance | |
| Exhibits high levels of stress, fear of failure, and peer pressure | ✓ |
| Lacks confidence in own abilities and low self-esteem | ✓ |
| Uses language as an attack weapon when dealing with others | ✓ |
| Has motivation to learn | |
| Prefers to work alone, rejects working with peer groups | ✓ |
| Seeks teacher or adult approval by any means possible | ✓ |
| Has difficulty managing or monitoring own behavior, or resolving conflicts | ✓ |
| Experiences an intensity in emotions and frustrations | ✓ |
| Engages in a variety of power struggles, oppositional behaviors with peers, in particular | ✓ |
| Is frequently bullied by others | |

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| Has fear of the unknown and resists by trying to take down others who seem weaker | ✓ |
| Can experience “deviation fatigue”, that is, becomes tired of being viewed by others as deviant or different | |
| May be self-centered, self-destructive, and manipulative | ✓ |
| Shows anxiety or distress in certain social settings | ✓ |
| Lack of social or emotional reciprocity | ✓ |
| Inhibited in interpersonal situations because of feelings of inadequacy | ✓ |
| Avoids activities that involve significant interpersonal contact due to fears of criticism, disapproval, rejection | ✓ |
| Low energy, overeating, or poor appetite | ✓ |
| Pessimistic view of life, melancholy | |

Successful People with EBD



As with Josh, Mandy, and Jacob, the people listed below have been able to manage their emotional and behavioral issues to become high functioning and successful adults. It is hoped that this will give children with GT/EBD some hope that things can and will get better as they get older!

- Adele (singer and composer)
- Johnny Depp (actor)
- Colin Farrell (comedic actor)

- Diana, Princess of Wales (political figure)
- Howard Hughes (inventor and business person)
- Shirley Jackson (author)
- Angelina Jolie (actress)
- Edward Munch (artist)
- Marcel Proust (author)
- Eleanor Roosevelt (US activist and political leader)
- Robert Schumann (composer)
- Barbara Streisand (singer, actress, producer, and composer)
- Mike Wallace (reporter and television entertainer)
- Oprah Winfrey (entertainer and entrepreneur)

Cognitive, Social and Emotional Strengths and Concerns for 2e

The charts on this and the next page summarize what we have learned about specific categories of twice exceptionality. The charts below list some of the cognitive, social, and emotional strengths and concerns related to twice exceptional students *across categories*.

| Cognitive Strengths | Cognitive Concerns |
|---|--|
| <ul style="list-style-type: none"> • High verbal or high spatial abilities • Good problem-solving and reasoning abilities • High level of background info and vocabulary • Makes connections between events, ideas, etc. • Grasps abstract concepts, whole to part • Sees big picture, at times • High level thinking on complex tasks • Frequent “out of the box” thinking • Curiosity and frequent question asking | <ul style="list-style-type: none"> • Spotty memory, especially short-term, rote memory • Lower executive functioning, planning, executing, and organizing • Slower processing speed • Difficulty with working memory • Difficulty with word-retrieval and organization of ideas • Lower auditory and sequential processing |

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| <ul style="list-style-type: none"> • Frequent challenging of authority or info provided | |
|--|--|

| Social Strengths | Social Concerns |
|---|---|
| <ul style="list-style-type: none"> • Can work happily independently, with mentoring • Thrives when acknowledged for expertise • Thrives when allowed to work with “buddy” • Leadership on projects of personal interest • Can inspire often when has a “vision” • Shows skill in leading others in contra-academic ways | <ul style="list-style-type: none"> • Frequently misunderstands motives of others • Often engages in self-imposed isolation • Frequently feels socially isolated • Hyper focus leads to being viewed as “different” • Frequently misses social cues due to auditory processing or nonverbal disabilities • Intensity of interests “inhibits” normal social interactions with age peers |

| Emotional Strengths | Emotional Concerns |
|---|--|
| <ul style="list-style-type: none"> • Frequently experiences intense emotions • Frequently engages in trying to do things “perfectly” • Sees personal implications of task success or failure | <ul style="list-style-type: none"> • Exhibits low self-regulation, low self-esteem • Hides failure via passive behaviors • Frequent/high frustration, anger, anxiety • Inflexibility when routines/plans are changed or are open-ended |

Subject Area Strengths and Concerns for 2e

The charts below list some of the academic subject area concerns related to twice exceptional students *across categories*.

| Math Strengths | Math Concerns |
|----------------|---------------|
|----------------|---------------|

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| <ul style="list-style-type: none"> • Strong grasp of concepts • Logical and symbolic thinking at high levels • Comes up with alternative, new solutions or processes • Relates math to novel situations | <ul style="list-style-type: none"> • Lower computing skill • Difficulty in retaining, recalling math facts • Difficulty in processing sequentially or explaining answers • Short quizzes are more successful than lengthy assignments |
|---|---|

| Reading Strengths | Reading Concerns |
|--|--|
| <ul style="list-style-type: none"> • Deep comprehension, inferential thinking • High level vocabulary, vast background knowledge • High level discussion and questioning skills • Grasps themes and main ideas | <ul style="list-style-type: none"> • Lower phonemic awareness • Lower reading fluency (pace, smoothness) • Less memory/recall of accurate details |

| Writing Strengths | Writing Concerns |
|--|--|
| <ul style="list-style-type: none"> • Creativity, originality in ideas and thinking • Comes up with content, idea, information • High verbal elaboration, unlimited detail /description • High level vocabulary | <ul style="list-style-type: none"> • Difficulty representing ideas on paper • Difficulty with basic skills: handwriting, capitalization, punctuation, spelling • Difficulty with organizing, sequencing, elaborating on ideas – what’s important, what’s first, what’s next, etc. |