

**Literature Review: Effectively Applying a Strengths-Based Approach in the Development  
of Twice-Exceptional School-Age Children**

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The topic of twice-exceptionality, or 2e, is a relatively new concept in psychology and education that has gained traction since the 1970s, with the introduction of federal legislation mandating free, appropriate public education for all children with disabilities (Baldwin, Baum, et al., 2015). Baldwin, Omdal, et al. (2015, p. 216) have described twice-exceptionality succinctly: "students who demonstrate gifts and talents but also have a disability are known as twice-exceptional and do not fit the stereotypical characteristics of students with a disability or giftedness." This second note is crucial because parents or educators will often focus on only one part of the child's exceptionality; usually focusing on the remediation of the child's deficits at the expense of fully realizing their strengths (Assouline et al., 2006; Foley-Nicpon & Assouline, 2015; Reis & Renzulli, 2020; Baldwin, Omdal, et al., 2015; Baum et al., 2014) and in doing so they miss the opportunity to fully develop their child's potential. Much research has focused on how tapping into a 2e child's gifts and talents can help bolster their weaknesses and lead to higher overall achievement.

Twice-exceptional children, their families, and teachers are in the unique situation of managing dual exceptionalities to maximize the child's growth potential. They cannot simply combine best practices from established research for gifted children and research for children with learning disabilities (Baldwin, Omdal, et al., 2015; Foley-Nicpon & Assouline, 2015; Pereles et al., 2009; Reis & Renzulli, 2020; Willard-Holt et al., 2013). Recognizing this gap in the research for twice-exceptionality, experts have been working on understanding the unique needs of 2e children and establishing methods to help them achieve their full potential. The first wave of research focused on accurately defining and recognizing 2e children and then moved

onto strategies for helping these children remediate their weaknesses (Amran & Majid, 2019; Baldwin, Baum, et al., 2015; Baldwin, Omdal, et al., 2015; Baum et al., 2014). Based on the foundational research from the earlier days of dedicated 2e research, experts realized that a strengths-based approach is vital in fully developing the potential of twice-exceptional students. This led the way for the next wave of research, which is currently exploring what effective "strengths-based" strategies look like when executed at home or in the classroom (Amran & Majid, 2019; Baldwin, Omdal, et al., 2015; Baldwin, Baum, et al., 2015; Baum et al., 2014; Foley-Nicpon & Assouline, 2015; Reis & Renzulli, 2020). This literature review is being conducted to understand the latest leading thoughts on effectively applying a strengths-based approach in the development of twice-exceptional school-age children.

### **Synthesis of the Literature**

The research on utilizing strength-based strategies when working with twice-exceptional children offers concrete recommendations and best-practice guidelines for parents, educators, and counselors. These empirically-researched recommendations can be grouped and synthesized into the following general themes: 1) development of positive adult relationships, 2) development of strengths and talents, and 3) accommodation of multiple learning styles.

#### **Development of Positive Adult Relationships**

A child's relationship with positive adult role models is an essential component of healthy development; however, for twice-exceptional children, their relationships with adults take on special significance for multiple reasons. First, a strong relationship with an adult can bridge the gap from the lack of peer relationships that often exist with 2e children. According to Barber and Mueller (2011), the cognitive capacities in twice-exceptional children often develop before their social and emotional capabilities, and therefore these students often face social alienation. In

addition, twice-exceptional students, perhaps because of their extra-sensitivities, tend to believe that they do not fit in with their peers, even when their peers report no such issues. Research from Barber and Mueller (2011) demonstrated that merely the *perception* of feeling different is the most relevant factor in driving the twice-exceptional child's behavior than the actual opinions of their peers. The research went on to show that the social disconnect from peers leads twice-exceptional students to attempt to mask their talents, which unwittingly further alienates them from peers. To compensate, 2e children often seek out relationships with older children, adults, and teachers.

Reis and colleagues (Reis et al., 1997, 2000) describe how parents' actions can significantly impact 2e children. The researchers conducted an in-depth study of successful twice-exceptional college students, those with learning disabilities who were strong academic performers at challenging universities. The students reported many negative educational experiences throughout their childhood, such as repeated punishments (i.e., having to miss recess) because of classwork that was not completed on-time, being held back and having to repeat a year, unkind treatment from educators, and placement in remedial learning classes, among other complaints. When asked what helped them make it through their earlier struggles and enable them to become the successful students they now were, the students most often cited their parents' support. Parents made the most profound difference in the child's life by giving them opportunities to participate in positive, outside-the-school opportunities in enriching areas such as music, dance, debate, performing arts, and technology (Reis & Renzulli, 2020; Reis et al., 2000). Parents are often the first to understand their child's interests and strengths. By providing children with a larger universe where they can express their interests and talents, parents "helped them to learn to identify their strengths out of school, learn special compensation

strategies and the personal strategies necessary to succeed academically" (Reis & Renzulli, 2020, p. 3). This support and acceptance from parents are crucial to help the twice-exceptional student see the world and possibilities beyond the small scope of their school.

In addition to enrichment opportunities, parents of successful twice-exceptional children have provided significant guidance and support for their children. This support has come in many forms, many unique to each child's individual profile. Some generally helpful and supportive actions that 2e parents have instigated are: a) seeking out professional evaluations from psychologist and learning experts; b) providing educational scaffolds and supports with experts in specific areas to bolster the child's weaknesses; c) being open and honest with the child about their disabilities and strengths in order for the child to develop healthy perceptions of themselves; d) teaching the child to advocate for themselves by setting an example of productive interactions with teachers, educators, and specialists; e) helping the child develop their own personal coping and compensation strategies; and finally, e) maintaining high expectations from their child despite their learning weaknesses (Amran & Majid, 2019; Barber & Mueller, 2011; Reis & Renzulli, 2020; Wang & Neihart, 2015). Parents lay the foundation of how the child expects to interact with the world, and by setting a strong example, the parent can help lead the child toward their full developmental potential.

Parents of twice-exceptional children may consider filling the peer gap for their child; however, the research exposed an interesting fact about the relationship between the parent and 2e child. Parents are not as effective as other adult or peer friendships at mitigating the risk factors of the child's exceptionalities. Positive relationships with peers, teachers, counselors, and trusted adults bolster the positive self-perceptions of twice-exceptional students, more than positive relationships with parents (Barber & Mueller, 2011). Trusted adults can serve as

mentors, confidants, and peers with shared interests. They provide the child with the specific benefits that come from friendships, such as support, a sense of community, interactions, and stimulation. As Barber and Mueller noted (2011), parents do not replace a child's circle of peers, but they are instrumental as a source of support and advocacy for the 2e child. The literature highlights the importance of a strong parent-child bond, not as "friends," more as advocates and guides.

Another fundamental adult relationship in a child's life is their relationship with their teacher. The teacher sets the tone in the classroom, and often the students that the teacher respects and lauds become the same students respected by their peer group, even when the teacher's approval is discreet and subtle (Barber & Mueller, 2011). In addition, teachers create the curriculum and methodology in the classroom, leading the students down their established learning path. Therefore, a strong, positive relationship with a teacher who understands the child's unique strengths and learning styles goes a long way in setting the child up for a successful school year. Barber and Mueller (2011) suggest that when teachers recognize the strengths in the 2e child, they can then designate the child to be an expert on the subject matter and choose them to coach fellow students who need help with subject mastery. This designation signals to other students that the teacher respects the child's abilities and elevates the 2e child's role in the classroom. Another way that teachers can foster social acceptance in 2e children is to become aware of the varied interests of the students in the classroom and buddy-up students together based on their interests, thereby encouraging potential friendship development based on common interests. Two-person groups are ideal so that the 2e child doesn't become the odd child out between a group of neurotypical children.

Teachers are often the conduit to a child receiving supplemental gifted programming opportunities. The research shows that twice-exceptional children are often entirely overlooked for gifted programming opportunities (Reis & Renzulli, 2020), to the detriment of their overall development. This oversight will be discussed in greater detail in the section below (“Development of Strengths and Talents”); however, for this section, it is vital to understand that the teacher's perspective of the child can be instrumental in securing the additional resources which can fully develop a child's potential. Most educators have the child's best interests in mind however, they don't often fully understand or see the child's full range of abilities. Frequently, a child's disabilities mask their giftedness and therefore teachers don't recognize or appreciate the talents the student possesses (Amran & Majid, 2019; Baldwin, Baum, et al., 2015; Baum et al., 2014; Foley-Nicpon & Assouline, 2015; Reis & Renzulli, 2020; Reis et al., 2000). In the process of uncovering learning disabilities, the child should have the opportunity to receive a full assessment from a specialized psychologist. However, parents can also help the school identify specific strengths by requesting that their child have the ability to demonstrate their proficiencies in different ways. One example discussed in the research is the Schoolwide Enrichment Model, which identifies talents, interests, and individualized learning styles through a variety of unique testing methods including videos, Legos, art, songs, simulations, roleplaying activities, hands-on activities, and project-based learning (Reis & Renzulli, 2020). When a child has the opportunity to unmask their strengths in this individualized way, educators can better understand how to serve the child's strengths and recognize in which areas the children may be eligible for advanced programming options.

If a parent feels that a teacher is not fully developing their child's strengths, the parent can advocate for the inclusion of talent development and consistent gifted programming

opportunities as an annual goal in the child's Individualized Educational Program (IEP) or 504 plan. An IEP is a legal document developed for each child in the U.S. who has an identified disability and requires special education. It is created through a team of the child's parent, teacher, and district personnel who are knowledgeable about the child's needs. Students who don't meet the criteria for special education but who still require certain accommodations may have a 504 plan to help meet their unique needs to fully enable their learning. Inclusion of talent development goals in an IEP or 504 plan can include such things as teacher and staff support for the child to be able to participate in school-related enrichment opportunities such as drama, music, science fairs and for the inclusion of regular supplemental educational programming that may be available at the school for students identified as gifted (Reiss & Renzulli, 2020).

One of the research reports contradicted several other studies and suggested that positive peer relationships were the most influential factor in a twice-exceptional child's academic achievement (Wang & Neihart, 2015). This research consisted of 6 middle school students from one private school in Singapore. Perhaps this report exposes the cultural differences between American children, where the other studies were conducted, versus children in other countries, or perhaps the sample size was too small, consisting of just six children, all from the same private school.

Like any child, twice-exceptional children strive to feel accepted and "normal." However, 2e children face more significant challenges because of their asynchronous social development and their learning difficulties, making it difficult to form social connections. The research demonstrates how strong, positive adult relationships help twice-exceptional children develop the sort of bonds they often lack with their peer group, give them a sense of community, and introduce them to a world of opportunities and possibilities they may have otherwise not known.



## **Development of Strengths and Talents**

When it comes to teaching the twice-exceptional child, the research is clear: we must focus on the child's strengths before addressing the weaknesses. (Amran & Majid, 2019; Baldwin, Omdal, et al., 2015; Barber & Mueller, 2011; Baum et al., 2014; Crepeau-Hobson & Bianco, 2013; Reis et al., 2014; Reis & Renzulli, 2020; Pereles et al., 2009; Willard-Holt et al., 2013). Strength development relies on tapping into the child's natural interests, talents, and skills. Using these strengths as a foundation, parents and teachers can then build upon them and introduce higher-order reasoning, strategic thinking skills, new concepts, and remediate areas of weakness. However, often twice-exceptional children are overlooked in the area of strength development and higher-order thinking opportunities.

Reis & Renzulli (2020) discovered dismal statistics in the gifted programming offered to children with IEPs. They studied over one thousand children with IEPs for specific learning disabilities and discovered that though 10% of the children displayed definite signs of high aptitude, none were recommended for gifted and talented programming options or offered any sort of additional advanced programming options. The focus was entirely on their learning disabilities, at the detriment of developing the full range of the child's abilities.

Before parents and educators can fully develop a child's interests and strengths, they must have a firm handle of the intricacies of these talents. The literature discusses the benefits of exposing the child to a wide variety of enrichment opportunities to fully develop a child's interests (Baldwin, Omdal, et al., 2015; Barber & Mueller, 2011; Baum et al., 2014; Crepeau-Hobson & Bianco, 2013; Reis et al., 2014; Reis & Renzulli, 2020; Pereles et al., 2009; Willard-Holt et al., 2013). These extra-curricular programs also have the added benefit of providing a like-minded peer group for the child to potentially develop new friendships. Baldwin, Omdal, et

al. (2015) offer the following chart to help parents and educators better understand the academic strengths in the child:

Figure 1: Questions to Help Determine Areas of Strengths and Interests

- In what subjects does the student excel?
- Does the student show evidence of higher level thinking in this subject?
- What is the student's favored mode of learning information and skills?
- What is the student's favored mode of expressing him/herself?
- Does the student qualitatively extend assignments and projects beyond the requirements? (Not just writing more pages for a report, but adding insights reflecting a deeper and more complex understanding.)
- In what topics does the student have interest and knowledge that is far above the level of a typical student of the same age? Does the student have an intense focus on a single topic that may be considered unusual?
- In what school-based or out-of-school activities does the student participate, and/or perform at a higher level than his/her age-mates and/or has received recognition?
- To what degree does the challenge/disability impact the ability of the student to pursue this area of interest?
- How has the student utilized his/her strengths to compensate or mediate the areas of challenge?

Once the child's strengths and interests have been determined, this talent-based approach can take several different forms in practice. For example, Baum et al. (2014) discuss a particular participant in their case study who was removed from his specialized school for twice-exceptional students in his 8<sup>th</sup> grade due to his repetitive disruptive behavior and poor performance. The school permitted him to return again in 9<sup>th</sup> grade, which coincided with the beginning of the school's high school when children in the school are allowed to join the school jazz band. The child joined the band, which resulted in his enhanced performance across multiple disciplines at school. His ability to engage in his strong passion for music during school became a way to connect him deeper within the school community and the confidence to feel like a contributing member of the group. According to his personal analysis and that of his teachers, this connection and success in one particular area was the change he needed to keep him motivated in his academic courses. He was able to maintain As and Bs in his courses throughout high school and went on to college upon graduation.

Crepeau-Hobson and Bianco (2013) discuss in their research the type of classroom that fosters elementary children's innate interests and passions. This classroom would include

multiple opportunities or stations for children to explore, develop, and demonstrate their interests and skills. Teachers should offer acceleration options for children with developed skills in particular areas. Small group instruction, based on children's interests and strengths, helps teachers understand the nuances in the child's developmental progress while also offering higher-order thinking opportunities through group discussions.

Reis and Renzulli (2020) discuss the importance of finding a good school fit for the twice-exceptional child as it pertains to helping the child tap into their strengths and fully develop to their potential. Certain schools take a talent-approach and provide significant enrichment opportunities so that a child's budding interests can fully flourish. The researchers discuss how these progressive schools create a student questionnaire and assessment so that the educators can understand the student's interests, preferred learning styles, their strengths and weaknesses, and even their preferred learning products (i.e., iPads, certain pens or pencils, notebooks, etc.) to better inform the teacher's curriculum development for the school year. The result, unsurprisingly, is that twice-exceptional students often are much more engaged, active, and successful in their learning as compared to schools that take the one-size-fits-all. The drawback is that few schools offer such in-depth analyses, and even when they do, teachers don't have the time or funds to create unique learning experiences for each child. However, in larger, metropolitan cities, schools that try to implement such individualized experiences are gaining traction (Reiss & Renzulli, 2020).

The research, when taken together, offer the following suggestions for encouraging the development of the strengths in twice-exceptional children (Amran & Majid, 2019; Baldwin, Omdal, et al., 2015; Barber & Mueller, 2011; Baum et al., 2014; Crepeau-Hobson & Bianco, 2013; Reis et al., 2014; Reis & Renzulli, 2020; Pereles et al., 2009; Willard-Holt et al., 2013):

- Investigate the child's natural interests and incorporate these interests in the child's life, school curricula, new learning opportunities, and areas of weakness.
- Use the student's strength as a hook to teach new skills, demonstrate their deep understanding of a topic, and build relationships with like-minded peer groups.
- Offer accelerated learning opportunities in their areas of strength, such as enrichment classes, acceleration opportunities, advanced placement courses, and gifted cohort programming.
- Allow and encourage the child to question, pick apart, investigate, and challenge what they're learning.
- Create interdisciplinary projects, activities, or curricula that organically connect and build on the child's topics.
- Go beyond typical standardized tests and allow the child to demonstrate their talents, understanding, and knowledge in non-traditional ways.
- Provide enrichment opportunities to enhance traditional learning, such as after-school classes, clubs, mentors, and apprenticeships.

The research shows that focusing solely on deficits leads to feelings of inadequacy, loss of agency, and lowered levels of self-efficacy, and additionally does not help remediate disabilities in 2e children because it does not focus on the learning conditions that gifted learners often require (Crepeau-Hobson & Bianco, 2013; Foley-Nicpon & Assouline, 2015; Reis & Renzulli, 2020). Deficit-focused remediation simply does not work as well for 2e children as a strengths-based, integrated approach that considers a child's specific talents and interests. Successful learning experiences focus on tapping into the child's strengths and skills to further enhance growth in those areas, teach new concepts and remediate weaknesses.

## **Accommodation of Multiple Learning Styles**

In order for teachers to create a nurturing, supportive environment for 2e children, they must be open to teaching a child where the child is at as opposed to imposing uniformity on the classroom (Baldwin, Omdal, et al., 2015; Crepeau-Hobson & Bianco, 2013; Reis & Renzulli, 2020; Willard-Holt et al., 2013). The literature offers many suggestions and best-practices for teachers to provide multiple learning styles to twice-exceptional students; however, these recommendations come with the caveat that each child's plans need to be very specifically and intentionally constructed (Baldwin, Omdal, et al., 2015; Crepeau-Hobson & Bianco, 2013; Foley-Nicpon & Assouline, 2015; Reis & Renzulli, 2020; Willard-Holt et al., 2013). What works for one 2e child may not work for another. Teachers should take a holistic approach to the child and understand the unique learning style that works best for the child's strengths and weaknesses.

According to Willard-Holt et al. (2013), who surveyed twice-exceptional students directly, the most helpful factors for helping them excel in the classroom included the following techniques: choice/flexibility in learning, assessment, and pace; using compensatory strategies and strengths to circumvent weaknesses; and collaborating in specific ways. Flexibility in learning can include using electronic devices like an iPad or laptop to word process documents or dictate speech to text. This technique helped reduce the note-taking time for the students, which in turn provided them more time to process the lesson and apply it in meaningful ways. The research offers several easy-to-implement techniques for optimal classroom learning, including a) providing extra time for assignments or tests for students with processing speed difficulties; b) shortening or modifying some assignments based on importance; c) offering students with sensory processing difficulties a quiet space for test-taking; opportunities for

breaks during exams for stretching or physical activity; d) providing materials with larger print; offering captioning or readable versions of oral lectures; preferential seating toward the front of the classroom for students who are easily distracted; and e) the use of technology to help processing speed (dictation, recording lectures, typing assignments, etc.) (Baldwin, Omdal, et al., 2015; Crepeau-Hobson & Bianco, 2013; Foley-Nicpon & Assouline, 2015; Willard-Holt et al., 2013).

Crepeau-Hobson and Bianco's (2013) research offers a nearly identical list of solutions for educators, along with the same caveats that each child's plan needs to be individualized for their unique needs and that gifted programming also needs to be addressed just as quickly and thoroughly as deficit-based remediations. For example, above grade-level activities and gifted programming fosters advanced learning opportunities and boosts self-esteem, which builds resiliency when the child faces struggles in weaker subject areas. Advanced groupings can also provide the child with like-minded peers and help them make social/emotional connections.

As mentioned above, the key to success is to find the right strategy that works for the individual. This strategy relies on student input and may take trial and error until a successful approach is devised. Teacher buy-in and support is vital. Educators can better understand the child's individual needs and strengths and subsequently offer more flexibility and individualization on learning and teaching styles, assessment tools, pace, and topics. Table 1 below summarizes Willard-Holt et al.'s (2013) research on the most beneficial learning strategies as rated by twice-exceptional students in their study:

Table 1: Strategies Marked "Very Beneficial" by Percentage of Participants

Item no.	Item	Percentage
Having control of one's learning		
90	Knowing how you will be marked before you begin an assignment	92.9
21	Knowing how much time you have on an assignment	86.7
9	Pursuing topics of interest to you at your own pace	80.0
12	Having time to think and process information	73.3
30	Using the Internet to research your favorite topic	73.3
94	Discussing your mark with your teacher	71.4
85	Having choice in the way you learn	69.2
11	Conferencing with the teacher individually	66.7
13	Asking for extra help	66.7
Complex ideas and ways of thinking about them		
*46	Understanding the ways that ideas are connected to each other	85.7
*47	Understanding how and why things happen	85.7
*45	Understanding complicated ideas and problems	78.6
60	Taking apart (analyzing) big problems or ideas	78.6
82	Getting concrete examples to explain abstract ideas	71.4
Other		
37	Learning with words (reading, writing, listening, speaking)	78.6
80	Explaining your thinking to other students	71.4
97	Even when you get a good mark, hearing about ways it could be improved	71.4
26	Listening to experts talk	66.7

Throughout the research, it becomes apparent that this category of accommodating multiple learning styles is consistently challenging to implement in a classroom setting. With large class sizes and limited resources, it is challenging for teachers to provide the individualized attention twice-exceptional children often need. Foley-Nicpon and Assouline (2015) recognized the constraints of teachers' time and attention, and in response they encouraged school counselors to take an active role in managing the cases of twice-exceptional

children, starting with identifying potential 2e students and then working with them and finally training their colleagues and teachers in best-practices for working with these children. Table 2 below summarizes their recommendations for school counselors, which is applicable beyond just counselors:

Table 2: Empirically Based Recommendations for Counselors Who Work with Twice-Exceptional Students (Foley-Nicpon & Assouline, 2015)

Research Finding	Recommendation for Counselors
Gifted education programming had a positive impact on the achievement in math and reading of gifted students with ASD (Assouline et al., 2010).	Ensure that twice-exceptional individuals have access to gifted and talented programming in and outside of academic settings; assist with finding funding if cost is a potential barrier.
A comprehensive evaluation is critical to obtaining a full understanding of the twice-exceptional individual's academic and social and emotional needs (Foley Nicpon et al., 2010).	Review the records of each client and consider both strengths and weaknesses in and out of the classroom in formulating treatment plans; help clients advocate for a comprehensive evaluation if one has not been obtained.
Individuals with ASD can have very high general, verbal, and/or nonverbal ability and simultaneous weaknesses in memory and the ability to process information (Foley Nicpon, Assouline, & Stinson, 2012).	Individuals with ASD can have exceptional verbal comprehension and learn material at a greater depth compared with their peers; adjust language and conceptualization based on clients' abilities, level of insight, and developmental level.
Individuals may generally have high ability and also significant differences in their ability and achievement profiles, including weaknesses in processing information quickly (Foley Nicpon, Assouline, & Stinson, 2012).	Allow sufficient time for individuals to process the information that is being presented; change in therapy may happen more slowly with twice-exceptional clients; recommend or offer accelerative opportunities in their talent domains.
Individuals who have very high verbal ability but average (or lower) achievement may have a specific learning disability (Assouline et al., 2010).	Underachievement may be due to a disability, not to a poor attitude or a lack of motivation; aid clients and their families in determining the cause behind the presenting symptoms.
Two approaches exist in understanding individuals with learning difficulties: (a) an educational approach based on federal legislation (the Individuals With Disabilities Education Act of 2004) and (b) a psychological approach based on identifying learning or behavioral disorders as determined through diagnostic criteria (Assouline & Whiteman, 2011).	Understand how the individual's diagnosis was determined and (in a K-12 setting) become aware of the rights afforded to that individual via a 504 plan for accommodation <sup>a</sup> or an IEP; set a goal to promote the individual's development of self-advocacy and problem-solving skills, particularly as he or she transitions out of formal education.
Gifted students with ADHD may present with lower self-esteem compared with those without a diagnosis; findings suggest that their self-esteem was higher than that of members of the general population; high cognitive ability may be a mitigating factor (Foley Nicpon, Rickels, et al., 2012).	Be aware of the potential need to address self-esteem difficulties among gifted individuals with ADHD; community counselors should assess career and lifestyle domains to holistically assess for potential self-concept issues in this population.
Professionals other than gifted educators are less likely to have exposure to the concepts of giftedness and twice-exceptionality (Foley-Nicpon et al., 2013).	Understanding the nuances associated with twice-exceptional individuals is an important addition to counselors' more traditional roles (e.g., planning for postsecondary education, assisting with life adjustments or stressors) and may influence how one interacts with the client.

Note. ASD = autism spectrum disorder; IEP = individual education plan; ADHD = attention-deficit/hyperactivity disorder.

<sup>a</sup>Accommodations set forth by Section 504 of the Rehabilitation Act of 1973.

Their recommendations are consistent with the guidance from others mentioned above. Specifically, the research emphasizes the importance of creating individualized plans for remediation and gifted education programming for 2e children while accommodating their individualized, unique learning styles. By taking a holistic approach to the child, parents and



educators can develop specific accommodations to accurately identify the child's strengths and foster their continued growth.

### **Limitations of Existing Research & Suggestions Looking Forward**

External validity issues and accessibility of research recommendations are limitations to almost all the research reviewed. Much of the research that has been done is from white, upper SES children and their families who have the resources to have their children tested, offer enrichment activities and find a niche, private schools that can better cater to their child's needs. As we saw in one research paper that was conducted outside of the United States, the results were starkly different in crediting which relationships are critical to the development of twice-exceptional children (Wang & Neihart, 2015). Though helpful for a specific demographic, this sort of niche research leaves out many children who do not have access to such costly resources. Future researchers can consider studying a wider range of children from various cultural and SES backgrounds to improve external validity applications. Additionally, research on specific demographics would be useful in understanding the differences between cultures and demographics, as it appears that different groups may be best served in different ways. Understanding these nuances will be vital in best serving specific populations.

In addition, many of the research recommendations are unique and specific, requiring inordinate amounts of time to gather and implement. For today's teachers, whose class sizes are larger than ever, creating detailed guides and implementation plans would mean that more teachers would utilize the recommendations and therefore help more children. Empirically-backed, manualized instructions and directions to help determine the child's strengths and then build an individualized curriculum based on the results would help make the recommendations more relevant for schools and teachers.

Finally, looking forward to furthering research opportunities, it would benefit the gifted community to get a sense of the definitive size 2e population. There is some speculation on various websites, but after an extensive search of the published research, there is no current statistic available on this group's size.

### **Conclusion**

Strength-based, talent-focused approaches lead the way in understanding how to optimize learning and full potential development in twice-exceptional children. The research is relatively consistent in the manner to best implement strategies for children: 1) fully explore and understand the child's strengths and talents and use these talents to inform a curriculum that fosters their growth and development to reach full potential; 2) focus on the child's unique needs for enrichment and remediation when creating individualized learning and enrichment plan; 3) encourage the development of positive bonds with trusted adults in the child's life; and 4) understand how to accommodate the children's unique learning style. Researchers offer some varied suggestions on how best to incorporate these recommendations, including techniques not discussed in this review, for example utilizing virtual reality and video games to enhance student learning (O'Sullivan et al., 2017). Still, the literature generally falls into the overarching categories mentioned above. Gone are the days that parents and educators could focus solely on remediating a child's deficits and ignore their strengths, a method that has been proven to stunt a child's full academic potential. As we look to the future, we now need to focus on bringing proven growth strategies to a wider variety of children so that those most vulnerable can have the same opportunities to grow and excel.

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