

Concordia University St. Paul
DigitalCommons@CSP

Graduate Teacher Education

6-2020

Meeting the Unique Needs of Twice-Exceptional Learners

Chelsea Feider

Follow this and additional works at: https://digitalcommons.csp.edu/teacher-education_masters

 Part of the [Education Commons](#)

Meeting the Unique Needs of Twice-Exceptional Learners

Chelsea Feider

Concordia University, St. Paul

Master of Arts in Education – Differentiated Instruction

ED 590: Research and Complete Capstone, Cohort 868

Course Instructor: Dr. Oluwatoyin Akinde Fakuajo

Second Reader: Professor Theresa Starkman

June 18, 2020

Table of Contents

Abstract	4
Chapter One: Introduction	5
Scope of Research.....	6
Importance of the Research	7
Research Question	8
Definition of Terms.....	8
Summary	10
Chapter Two: Literature Review	11
The Importance of Identification	12
The Masking Effect.....	12
Teacher Training.....	14
Using a Variety of Identifiers and Modified Criteria.....	15
Supporting Twice-exceptional Learners.....	17
Including Key Stakeholders	18
Including Students	18
Including Parents and Families	19
Including Other School Staff and Administration	21
Accommodations for Twice-exceptional Learners	23
Organizational Support	23
Response to Intervention.....	24
Highlighting Giftedness	27

Effects on Self-esteem29

 Positive Effects30

 Negative Effects.....32

 Conclusion33

Chapter Three: Summary33

 Review of the Proposed Problem.....34

 Importance of the Topic35

 Summary of the Main Points of the Literature Review36

 Conclusion38

Chapter Four: Discussion/Application and Future Studies.....38

 Insights Gained from the Research39

 Application.....40

 Suggestions for Future Studies43

 Conclusion44

References45

Appendix: Tracking Matrix50

Abstract

Differentiating instruction for all learners is a tremendous challenge for educators in the elementary setting. This is especially difficult when students have disabilities or are gifted. In some cases, students have both and are therefore labeled as twice-exceptional. These students need special accommodations to be successful in the classroom. This paper analyzed a variety of qualitative and quantitative studies to determine the importance of using a variety of testing and observation methods to identify twice-exceptional learners, outline appropriate accommodations to support twice-exceptional learners, describe the importance of key stakeholders' involvement in the process, and describe the effects of identification and programming on twice-exceptional learners' self-esteem. The literature showed that a variety of assessment and observation measures needed to be utilized to identify twice-exceptional learners. In addition, twice-exceptional students succeeded when their teachers made appropriate accommodations and highlighted their gifts. Lastly, it was determined from the literature the effects of the twice-exceptional label on students' self-esteem was mixed. Overall, the involvement of key stakeholders, implementing appropriate interventions and accommodations, and highlighting students' gifts provided success for twice-exceptional learners.

Keywords: accommodations, key stakeholders, self-esteem, twice-exceptional

Meeting the Unique Needs of Twice-Exceptional Learners

Chapter One: Introduction

Despite teachers' best efforts, there is difficulty in meeting the educational and emotional needs of twice-exceptional learners. According to Reis, Baum, and Berke (2014), twice-exceptional learners demonstrate high potential in academic, visual or performing arts, or other areas of human productivity while also manifesting one or more disability. Disabilities could include specific learning disabilities, emotional/behavioral disabilities, physical disabilities, Attention Deficit/Hyperactivity Disorder (ADHD), Autism Spectrum Disorders, or other health impairments (Reis et al., 2014). These students' academic abilities sometime span a very wide spectrum and in some cases, their disabilities make it nearly impossible for them to succeed in their area of giftedness due to the masking effect. If a student's disability is identified, that is often what their teacher recognizes, and their area of giftedness remains unidentified. In other cases, educators assume a gifted student will be successful in all areas of schooling because they have been identified as gifted. In reality, many students needed accommodations to reach their potential because of their disability. According to Barnard-Brak, Johnsen, Hannig, and Wei (2015), teachers were often the first to refer students for testing. This was problematic because according to Bianco and Leech (2010), teachers did not recommend twice-exceptional students for gifted programming when a disability was present. According to Bannister-Tyrrell, Mavropoulou, Jones, Bailey, and O'Donnell-Ostini (2018), there was generally a lack of teacher training in the area of twice-exceptionality, so many twice-exceptional students only had their disabilities labeled and were never truly challenged.

Once a student had been given the twice-exceptional label, the next task was providing them with the accommodations they needed to be successful in all academic areas. Whether a

student had an Individualized Education Plan (IEP), a 504 plan, or had not officially been diagnosed with a disability or giftedness, educators needed to be aware of how to differentiate for the twice-exceptional learner's needs. It was important to provide the necessary accommodations to support a student's disability. It was equally as important to highlight a student's gifts and allow them to excel in those areas because it had a positive effect on their self-esteem. The purpose of this research was to identify methods that successfully identified twice-exceptional learners, which accommodations educators put in place to help twice-exceptional learners reach their full potential, the role of key stakeholders in this process, and ultimately, what effects these strategies and identification had on twice-exceptional learners' self-esteem.

Scope of Research

Throughout the literature review, a variety of qualitative and quantitative research articles outlined effective testing methods for identifying twice-exceptional learners. The research then indicated the importance of all key stakeholders' involvement in the process of supporting twice-exceptional learners. Next, the research outlined strategies and accommodations that educators provided to meet the dual needs of twice-exceptional learners. The accommodations and strategies examined included the benefits of providing organizational supports, the importance of highlighting the learner's gifts to help them feel successful, and the use of the Response to Intervention (RTI) model to identify appropriate interventions and enrichment. Last, the research described how the gifted and twice-exceptional labels, as well as participation in gifted programming, affected twice-exceptional learners' self-esteem.

Importance of the Research

Twice-exceptional students are under identified for a variety of reasons. Academic and achievement tests eliminate the identification of many students who are gifted in creativity, leadership skills, and performance arts. Students' disabilities and gifts can mask one another, causing neither to be identified (Ruban, 2005). Without a variety of tests and observation methods being used to identify students' gifts, many never received the differentiated instruction needed to excel academically. This literature review outlined some successful strategies used to identify twice-exceptional learners, therefore contributing to the body of knowledge on the topic of identification.

All children have gifts that should be celebrated and built upon. Educators needed to look for and highlight the gifts that made each student unique and use them to encourage and motivate their learning. For a twice-exceptional learner, their ability to excel could be negatively affected by their disability. If an educator was not aware of how to work with a student who had both an area of exceptionality and disability, their unique needs were not met. In a case study completed by Wormald, Rogers, and Vialle (2015), teachers believed a twice-exceptional learner had a developmental delay because he could not write his name and excluded him from reading groups. In reality, the student had a motor planning disorder called dyspraxia but was an extremely gifted builder and was verbally precocious. After his parents sought outside IQ tests they discovered he was academically gifted and the teachers allowed him to participate in higher-level reading groups (Wormald et al., 2015). Without the ability to go through outside testing, some students were never recognized as gifted by the school system and were therefore not included in important learning opportunities. The research outlined in this literature review also

contributed to the already existing body of knowledge on the best strategies and accommodations used to support twice-exceptional learners.

It was also important to understand how gifted labels affected twice-exceptional learners. The research provided mixed results, leaving it open to some interpretation. While Wang and Neihart (2015) found positive results from gifted identification despite a disability, Ronskley-Pavia, Grootenboer, and Pendergast (2019b) found twice-exceptional students did not feel they belonged with gifted students or students with disabilities. A sense of belonging is necessary for students to succeed in school; therefore, more research needs to be done to explore how the twice-exceptional label affects students and how the key stakeholders in their life can support them.

Research Question and Connection to Program Essential Question

The research examined how key stakeholders can best identify and accommodate the dual academic and social/emotional needs of twice-exceptional learners. Therefore, in light of what is known about differentiated instruction, how shall the educational system best meet the unique learning needs of twice-exceptional learners?

Definition of Terms

The chosen terms were meant to aid in the understanding of the literature review. It was important to understand the wide range of gifts and disabilities that were present in twice-exceptional learners. It was also important to note that not all twice-exceptional students had been formally identified. Therefore, the terms accommodations and strategies were used simultaneously to include students who have formal Individualized Education Plans and 504 plans, as well as those who did not.

Accommodations. For this research, accommodations were defined as any differentiation an educator used to meet the unique needs of twice-exceptional students. Whether it was legally outlined in an Individualized Education Plan or a 504 plan or was just a strategy an educator utilized to help a twice-exceptional learner reach their full potential, it was referred to as an accommodation. The specific accommodations and strategies outlined in this literature review were organizational supports, Response to Intervention, and highlighting gifts.

Differentiated instruction. Differentiated instruction referred to the different processes and products utilized in a classroom to provide each student with a meaningful and successful learning experience. According to Heacox (2017), there are a unique set of guidelines that need to be utilized when differentiating for the specific cognitive and affective characteristics of gifted learners, including but not limited to, the ability to pursue interests outside the typical curriculum, and individualized learning plans based on interests, needs, and readiness. Similarly, when differentiating for a student with a disability, there were unique needs that must be met, such as those outlined in an IEP or 504 plan. This included adaptations to the curriculum, physical accommodations, or the use of assistive technology. Teachers needed to consider a twice-exceptional student's giftedness and disability when differentiating their instruction.

Disability. According to the Individuals with Disabilities Education Act (IDEA, 1975), a child with a disability may have an intellectual disability, a specific learning disability, a physical or orthopedic impairment, emotional disturbance, autism, a traumatic brain injury, speech or language disability, or other health impairments (IDEA, 1975). The range of severity and types of disabilities was quite wide, which made it difficult to figure out the best differentiation for each child, especially when combined with an area of giftedness.

Gifted. Giftedness referred to a person's ability to perform well in a particular area, such as academics, leadership, creative arts, or critical thinking. The current definition from the Elementary and Secondary Education Act (1965) as listed by the National Association for Gifted Children (NAGC) referred to a student who has high capability in an intellectual, creative, academic, or leadership role and needs special services to fully develop their capabilities (NAGC, n.d.). According to Heacox (2017), some special services gifted learners benefitted from are the incorporation of advanced, in-depth content, the use of technology to extend their learning, and content acceleration.

Key stakeholders. This term referred to all people involved in making decisions surrounding a twice-exceptional learner's education. This included administrators, teachers, families, policymakers, and the students themselves. All key stakeholders needed to be invested and active in the decision-making process when deciding which accommodations were best for a twice-exceptional student.

Twice-exceptional. According to the Twice-Exceptional Special Interest Group (n.d.), twice-exceptional children were defined as students who showed high potential in an academic subject, or other areas such as creativity, leadership, or performing arts. Twice-exceptional students also had one or more disability, such as a specific learning disability, ASD, ADHD, emotional/behavioral disorder, speech or language impairment, or other health impairment.

Summary

Without the proper differentiation, a student felt only their disability was recognized and did not have the opportunity to excel in their area of giftedness, which negatively affected their self-esteem. This topic needed to be researched to determine how educators and all key stakeholders worked together to best meet the needs of twice-exceptional learners. In Chapter

Two, the literature was reviewed to outline and discuss strategies that effectively identified twice-exceptional learners, appropriate strategies and accommodations key stakeholders put in place to meet the needs of these unique learners, as well as the effects on their self-esteem and ability to excel academically and emotionally. Recognizing and understanding the dual exceptionalities of a child with a disability and an area of giftedness was a daunting task, but in light of what is known about differentiated instruction, the literature review outlined how educators can best meet the needs of twice-exceptional learners. In Chapters Three and Four, the research was summarized and suggestions were made for applications, as well as future studies to be conducted.

Chapter Two: Literature Review

As discussed in Chapter One, twice-exceptional students labeled as gifted and having a disability needed special accommodations in both areas to succeed. The social and emotional health of twice-exceptional learners was also considered. The following review was guided by the essential question: in light of what is known about differentiated instruction, how shall the educational system best meet the needs of twice-exceptional learners? Research indicated a need for a variety of testing measures to identify twice-exceptional students and the importance of all key stakeholders' involvement in the identification and accommodation processes. It was the job of all key stakeholders to make sure that multiple methods were being used to identify twice-exceptional learners (Barnard-Brak et al., 2015; Horn, 2015; Ruban, 2005; Tallent-Runnels & Sigler, 1995; VanTassel-Baska, Feng, & de Brux, 2007; Wood, 2012). It was also the task of all stakeholders to ensure twice-exceptional learners' unique needs were being met through a variety of accommodations. In some cases, organizational supports were suggested (Khan & Asif, 2017; Wormald et al., 2015). The use of RTI was explored as an option to meet the dual needs of

twice-exceptional learners (Crepeau-Hobson & Bianco, 2013; Pereles, Omdal, & Baldwin, 2009; Robertson & Pfeiffer, 2016). Research also focused on the importance of highlighting twice-exceptional learners' gifts and using them to accommodate for disabilities (Fugate, Zentall, & Gentry, 2013; Missett, Azano, & Callahan, 2016; Weinfeld, Barnes-Robinson, Jeweler, & Roffman Shevitz, 2005). Researchers showed an overall improvement on twice-exceptional learners' self-concept, self-esteem, and academic achievement when their needs were met (Mayes & Moore, 2016; VanTassel-Baska, Feng, Swanson, Quek & Chandler, 2009; Weinfeld et al., 2005; Wang & Neihart, 2015; Wormald et al., 2015). When twice-exceptional students were given the tools they needed to succeed, they were able to reach their full potential.

The Importance of Identification

Many twice-exceptional students went unidentified due to the masking effect or a heavy focus on their disabilities (Bianco & Leech, 2010; Missett et al., 2016; Ruban, 2005; Wood, 2012). Researchers concluded twice exceptional students benefited from a wider range of identification methods and the involvement of key stakeholders working together (Barnard-Brak et al., 2015; Horn, 2015; Tallent-Runnels & Sigler, 1995; Wood, 2012).

The masking effect. The masking effect, in which twice-exceptional students ran the risk of not being identified in either area because their two conditions hid one another (Ruban, 2005), was commonly outlined in the research (Bianco & Leech, 2010; McCallum et al., 2013; Missett et al., 2016; Wood, 2012). Bianco and Leech (2010) recognized in some cases a twice-exceptional student's giftedness compensated for their disability, causing the disability to not be identified. More often, the sole focus was put on a twice-exceptional student's disability and their giftedness went unidentified. Bianco and Leech (2010) conducted a mixed methods study of 277 general, special, and gifted education teachers. The researchers looked at the likelihood each

type of teacher would recommend a twice-exceptional student for gifted programming after reading a vignette of an imaginary fourth-grade student. When the student was given no label, 97% of teachers, regardless of their discipline, recommended the student for gifted programming. In survey responses meant to elaborate on the reasons for gifted identification teachers focused on the student's gifts rather than the deficits. The teachers recognized the student's science abilities but rarely mentioned their dislike of timed tests or sensitivity to criticism. When the same student was given a label of either emotional/behavioral disorder or learning disability, the teachers focused more on the student's deficits and the likelihood of recommendation for gifted services declined (Bianco & Leech, 2010). The researchers stated participants were not obtained randomly and all worked at schools where administrators granted permission for research. The teachers were also given limited information in the student vignette. The researchers believed teachers' referral decisions for gifted programming could have been affected by these conditions, making them limitations of the study.

There were other factors, such as attention issues, that were found to mask students' giftedness. Wood (2012) found this to be the case for students with ADHD. The test most commonly used to identify students with ADHD, the Conners 3, did not have a gifted subgroup used in the normalization process and therefore was not set up to identify giftedness as a co morbid condition of ADHD. This was concerning to the researchers because ADHD and giftedness commonly mask one another. If a teacher was not well trained in the characteristics of students with both ADHD and giftedness, they may have been unable to identify giftedness in these students if the Conners 3 was the only test being used for identification (Wood, 2012). Conduct and emotional/behavioral disorders were also found to mask giftedness (Missett et al., 2016; Pereles et al., 2009). These studies were discussed in further detail at later points in the

literature review. The following section discussed the importance of teachers being trained in the identification of twice-exceptional learners.

Teacher training. Classroom teachers were often first to nominate a student to be assessed for gifted programming but were not recommending twice-exceptional students at the same rate as traditionally gifted students. Teachers were afraid the twice-exceptional students' disabilities would overshadow their gifts and would create instructional issues for the gifted education teachers (Barnard-Brak et al., 2015).

Teacher training was an important component in the identification of twice-exceptional learners (Bannister-Tyrrell et al., 2018; Horn, 2015). In a mixed-methods study of teachers in a graduate education program, Bannister-Tyrrell et al. (2018) asked respondents to report their knowledge of students with exceptionalities they might encounter in an inclusive classroom and how competent they felt teaching them. The researchers discovered that teachers who had taken more courses on inclusive education reported feeling more competent working with students who had exceptionalities. The researchers did not take into account the teachers' previous experience working with children with disabilities, which they listed as a limitation of the study (Bannister-Tyrrell et al., 2018).

In an overview of the Young Scholars program in Fairfax County Public Schools in Virginia, Horn (2015) outlined the process used for identifying gifted learners in underserved populations, including special education. They trained classroom teachers and allowed gifted education teachers to co-teach in the general education classroom as well as kept a running portfolio of students' achievement abilities in a variety of areas. The teachers were able to identify many students who may have otherwise gone unnoticed, which included twice-exceptional learners. Incorporating nine critical and creative thinking strategies into daily

lessons, such as mind mapping, and the use of analogies and questioning, also helped the teachers identify students with special abilities. General education teachers spent the most time each day with students and were an important part of the identification process. Therefore, it was important for the Young Scholars program to prepare teachers to identify gifted learners (Horn, 2015). The next section outlined the importance of using a variety of identifiers, including performance tasks, to identify twice-exceptional learners.

Using a variety of identifiers and modified criteria. The research determined schools and districts that used a variety of testing and observation methods, included general education and gifted education teachers in the process, and modified their testing criteria identified more twice-exceptional and underrepresented groups (Horn, 2015; Tallent-Runnels & Sigler, 1995; VanTassel-Baska et al., 2007). The research outlined the testing methods used to identify twice-exceptional students and the stakeholders involved in the process.

Ability and achievement tests used in isolation identified fewer twice-exceptional students from underrepresented groups than performance tasks (Barnard-Brak et al., 2015; Ottone-Cross et al., 2016; VanTassel-Baska et al., 2007). In a quantitative study of 20 school districts across South Carolina, VanTassel-Baska et al. (2007) found a performance task resulted in higher gifted identification rates for underserved population. The performance task required students to solve challenging problems and show a deep understanding of the thought processes used in solving them. This performance-based assessment was used in conjunction with modified criteria for ability and achievement tests and resulted in a higher percentage of African Americans, females, twice-exceptional, and students on free and reduced lunch programs being identified as gifted (VanTassel-Baska et al., 2007).

Barnard-Brak et al. (2015) and Ottone-Cross et al. (2016) found the strict use of ability and achievement tests did not identify a majority of twice-exceptional learners. A group of 11,337 children with disabilities completed the Woodcock-Johnson III (WJ-III) as part of the Special Education Elementary Longitudinal Study and 330 were considered gifted (Barnard-Brak et al., 2015). However, only 11% of those children were found to be participating in gifted programming. The WJ-III only assessed reading and math skills, whereas research concluded more than one measure should be used to identify gifted students (Barnard-Brak et al., 2015). Similarly, Ottone-Cross et al. (2016) found the use of the Kaufman Test of Educational Achievement-Third Edition (KTEA-3) showed lower scores on average for twice-exceptional students. The researchers utilized the KTEA-3 with 355 students who fell into three groups: students who were gifted, students who were gifted with a specific learning disability, and students who had a specific learning disability. Students who were gifted with a learning disability scored similar to gifted students on the higher-level processing subtests but scored lower than gifted students on basic computation tests (Ottone-Cross et al., 2016). The research of Barnard-Brak et al. (2015) and Ottone-Cross (2016) showed that academic achievement and ability tests used alone did not identify as many twice-exceptional learners. Both studies reported similar limitations. Ottone-Cross et al. (2016) noted the twice-exceptional learners studied were found using measures of crystallized intelligence, which did not consider the wide variety of requirements for a gifted diagnosis. Barnard-Brak et al. (2015) stated the lack of a federal definition of giftedness caused the districts researched to have varying standards on gifted identification. However, this limitation also reflected on the fact that many schools relied heavily on achievement tests for identification.

Tallent-Runnels and Sigler (1995) also identified the need for alternative forms of tests to be used when identifying twice-exceptional learners. In a qualitative study of 388 gifted program coordinators in Texas, they found only 19.7% of respondents reported having twice-exceptional students represented in their gifted programs. Fifty-six of the seventy-five districts that responded stated they made modifications to their selection process in order to identify the twice-exceptional students. In many of these cases, alternate forms of tests, along with open screening and waiving of certain criteria were used to identify students with disabilities (Tallent-Runnels & Sigler, 1995).

The research concluded the masking effect, teacher training, and use of academic and achievement tests affected the identification of twice-exceptional learners (Barnard-Brak et al., 2015; Bannister-Tyrrell et al., 2018; Bianco & Leech, 2010; Horn, 2015; Ottone-Cross et al., 2016; Tallent-Runnels & Sigler, 1995; VanTassel-Baska et al., 2007). The next section outlined the strategies used to support twice-exceptional learners once they had been identified and discussed the key stakeholders involved in the process.

Supporting Twice-exceptional Learners

Pereira, Knotts, and Roberts (2015) found twice-exceptionality was only formally recognized in gifted legislation and policy in eleven states in the United States, but it was still necessary for teachers to recognize the unique needs of these learners. Once a twice-exceptional student was identified, teachers had to remember that special accommodations and enrichment needed to be utilized in order to support both their dual needs (Pereles et al., 2009; VanTassel-Baska et al., 2009; Weinfeld et al., 2005; Wormald et al., 2015). It was also important to include key stakeholders in the process of supporting twice-exceptional learners because everyone needed to work to meet the students' needs (Horn, 2015; Pereles et al., 2009; Wormald et al.,

2015). The following sections outlined strategies used to support twice-exceptional learners and the key stakeholders involved in the process.

Including Key Stakeholders. To provide the appropriate accommodations and adaptations, it was necessary for all key stakeholders to be invested and involved in the process (Horn, 2015; Pereira et al., 2015; Pereles et al., 2009; Ronksley-Pavia, Grootenboer, & Pendergast, 2019a; Weinfeld et al., 2005; Wormald et al., 2015). This included twice-exceptional students, families, general education teachers, special education teachers, gifted education teachers, administration, and policymakers.

Including students. It was important to include twice-exceptional students in conversations about their learning because it increased their self-esteem and empowered them as learners (Wormald et al., 2015; Weinfeld et al., 2005). A study completed by Weinfeld et al. (2005) in Montgomery County Public Schools found differing views among key stakeholders when surveyed about the importance of adaptations and accommodations for twice-exceptional students. Mainly, the researchers found there was a discrepancy between the accommodations teachers, parents, administrators, and twice-exceptional students considered to be “empowering,” or promoting personal growth and increased competencies (p.14). The survey results led the school district to devise an action plan resulting in more frequent and effective monitoring and communication between all stakeholders, including an action plan that would provide twice-exceptional students with training on how to understand their unique strengths and weaknesses and how to advocate for themselves (Weinfeld et al., 2005). Similarly, in a case study completed by Wormald et al. (2015), the researchers found the twice-exceptional student enjoyed being a part of conversations in which alternate assignments and assessments were discussed, even

though some teachers did not approve of it. The student stated it provided him with a sense of ownership over his learning, which increased his self-confidence (Wormald et al., 2015).

Including all key stakeholders, particularly the students themselves, and inquiring about their thoughts and perceptions on accommodations and adaptations led to more positive results for twice-exceptional students. Weinfeld et al. (2005) and Wormald et al. (2015) both discovered that including twice-exceptional students in the decisions made about their learning had a positive effect on their self-esteem and feelings of empowerment.

Including parents and families. Regular communication with and involvement of twice-exceptional learners' families was vital to their success in school (Mayes & Moore, 2016; Park et al., 2018; Pereles et al., 2009; Wormald et al., 2015; Weinfeld et al., 2005). Twice-exceptional students had a more positive educational experience when their families were involved and advocated for their children's needs.

In a case study completed by Wormald et al. (2015), one boy's parents had an outside IQ test done to show he was academically gifted because school staff refused to believe them. The parents even had testing done across multiple years to prove his giftedness to his general education teachers. After the IQ testing was done, his teachers began to include him in higher-level reading groups and provided him with more individualized support (Wormald et al., 2015).

Several researchers discovered twice-exceptional learners benefitted when parents and families were involved in meetings and interviews with school staff (Pereles et al., 2006; Mayes & Moore, 2016; Park, Foley-Nicpon, Choate, & Bolenbaugh, 2018; Weinfeld et al., 2005).

Mayes and Moore (2016) and Park et al. (2018) found parent involvement and advocacy benefitted twice-exceptional learners' educational experience. Mayes and Moore (2016) interviewed the parents of eight twice-exceptional African American students and found they had

varying levels of trouble accepting their child's disability. The parents ultimately became more involved through IEP meetings and meetings at the district level, which made them more knowledgeable about their child's disability and how to support them. The parents also shared they often needed to advocate for their child when teachers did not understand their twice-exceptionality (Mayes & Moore, 2016). Park et al. (2018) also found parents needed to advocate for their twice-exceptional children's needs in school. The researchers interviewed ten Asian American parents about their experience raising a twice-exceptional child. Overall, the parents stated a lack of information and knowledge about twice-exceptionality among health professionals and teachers made it difficult to provide for the dual needs of their children. The parents worked hard to provide for their twice-exceptional children's dual needs by moving to new schools, advocating for IEP or 504 plans, or enrolling them in private tutoring (Park et al., 2018).

Pereles et al. (2009) conducted a case study on a twice-exceptional student and found regular communication and interviews with parents helped educators make decisions that provided support through the RTI method. The RTI process involved providing dual differentiation for the student's disability and giftedness. Weekly communication via email was utilized to find out how the student was doing at home and how his parents felt the success of the intervention was going. The information provided by the family helped the school staff monitor and adjust their interventions. Similarly, Weinfeld et al. (2005) found that parent interview data were used to determine appropriate accommodations for their children who were labeled as both gifted and learning disabled. This interview data was combined with student and teacher responses to decide which accommodations were most empowering to the twice-exceptional learners. Pereles et al. (2009) and Weinfeld et al. (2005) completed studies with small groups of

children, which were considered a limitation by researchers. However, when looked at together, they showed the importance of including the opinions of twice-exceptional students' families in their education.

Including other school staff and administration. Researchers determined there were many school staff members, administrators, and even policymakers who needed to work together to make twice-exceptional students' education successful (Horn, 2015; Pereira et al., 2015; Pereles et al., 2009; Wormald et al., 2015).

Pereles et al. (2009) conducted a case study on a twice-exceptional student whose teachers used the RTI model to support his giftedness and his academic and behavioral struggles. The RTI process involved the inclusion of many key stakeholders to get him the dual services he needed to succeed. Regular meetings were held between general and special education teachers and constant progress monitoring were done to assess and adjust based on his needs. Without extensive meetings and communication between all of the adults involved in this student's life, he would have continued to struggle and not feel successful in his academic career (Pereles et al., 2009).

Horn (2015), Ronksley-Pavia et al. (2019b), and Wormald et al. (2015) all noted the importance of teacher involvement in the process of supporting twice-exceptional learners. Horn (2015) explained the importance of involving gifted resource teachers in the practice of co-teaching with general education teachers. Co-teaching allowed teachers to implement critical thinking and creative strategies in the classroom that helped them identify more students that are gifted. While one taught, the other made observations used to identify special abilities (Horn, 2015).

Ronksley-Pavia et al. (2019a) and Wormald et al. (2015) found the involvement and understanding of classroom teachers made an impact on twice-exceptional students' education. Wormald et al. (2015) found some teachers refused to provide accommodations for a twice-exceptional student because they believed it was unfair to other students. As a result, the twice-exceptional student moved to a different school, where he had multiple teachers who advocated for his needs and provided the support he needed to overcome his disability and show how gifted he truly was. Additionally, Ronksley-Pavia et al. (2019a) outlined the negative experiences of eight twice-exceptional children in a qualitative study. Each of the eight students who were interviewed reported having teachers that did not understand their disabilities or paid attention solely to their disabilities and did not recognize the students' gifts. The twice-exceptional students' negative experiences with teachers caused them to have poor perceptions of school and some even moved to homeschooling (Ronksley-Pavia et al., 2019a).

Pereira et al. (2015) noted the importance of policymakers in the process of supporting twice-exceptional learners. Pereira et al. (2015) said many states had their gifted and special education departments in different divisions within their state departments. The researchers believed unless special education and gifted education departments were brought together, there would never be cohesive support of twice-exceptional learners in either area of school.

In her overview of the Young Scholars program for identifying gifted learners, Horn (2015) noted the importance of school administration in identifying twice-exceptional learners. Horn (2015) believed that without the support of principals, teachers would not have received the training they needed to identify gifted learners in underserved populations. An important part of the Young Scholars program was the collaboration of principal/teacher leadership teams that worked together to identify gifted students in underserved populations.

There were many key stakeholders found to be an integral part of supporting a twice-exceptional learner throughout their education. The next section outlined the accommodations that were found successful for twice-exceptional learners with a range of disabilities.

Accommodations for Twice-exceptional Learners. Researchers found a variety of accommodations and strategies that supported twice-exceptional learners. Organizational support, the RTI model, and using giftedness to accommodate were all successful strategies found in the research. Baldwin, Baum, Pereles, and Hughes (2015) explained twice-exceptional students needed both enriched and advanced opportunities to develop their gifts and interests coupled with supports to ensure their academic needs were being met (Baldwin et al., 2015). The strategies outlined in the following sections addressed how that dual support was accomplished.

Organizational support. Researchers concluded many twice-exceptional learners benefitted from organizational supports (Danielan & Nilles, 2015; Khan & Asif, 2017; VanTassel-Baska et al., 2009; Wormald et al., 2015). In a study completed by VanTassel-Baska et al. (2009), the researchers found some twice-exceptional students had been permanently removed from gifted programming because they were struggling with maintaining good grades, or in other cases, simply because they were disorganized. One student noted the removal was difficult because he made friends while participating in the gifted program and was made fun of by students in the general education classroom (VanTassel-Baska et al., 2009). The student removed from gifted programming would have benefited from organizational supports for his disability. Similarly, Danielan & Nilles (2015), Wormald et al. (2015), and Khan and Asif (2017) found graphic organizers and note-taking tools were beneficial for twice-exceptional learners. Danielan & Milles (2015) noted that physical organization of spaces and workloads was challenging for twice-exceptional learners and suggested checklists, frequent reminders of due

dates, and duplicate sets of books at home as possible strategies to help with organization.

Danielan & Milles (2015) also suggested assistive technology for twice-exceptional learners to use while reading and writing.

In a case study conducted by Wormald et al. (2015), a gifted student was excluded from learning opportunities due to a physical disability that kept him from being able to control his physical movements. Because of his physical disability and poor motor coordination, he needed assistance with note-taking and organizing his thoughts before writing (Wormald et al., 2015). Khan and Asif (2017) also found in their analysis of strategies that were beneficial to students with learning disabilities that graphic organizers were beneficial because twice-exceptional students tended to be visual learners. When the twice-exceptional students had a method for organizing their thoughts they were able to show what they knew about a topic (Khan & Asif, 2017). The next section outlined the use of the RTI method to identify and accommodate twice-exceptional learners' needs.

Response to intervention. As cited in Pereles et al. (2009), The National Association of State Directors of Special Education defined RTI as the “practice of providing high-quality instruction and interventions matched to student need, monitoring progress frequently to make decisions about changes in instruction or goals and applying child response data to important educational decisions” (p.40). According to Barnard-Brak et al. (2015), the majority of states used RTI to focus primarily on students with learning disabilities. However, some states designed models that were inclusive of gifted students. The following section outlined how schools successfully used RTI to accommodate for twice-exceptional learners' disabilities and gifts.

Robertson and Pfeiffer (2016) claimed gifted children were at risk for under-achievement because they were not challenged and developed poor work habits. The researchers believed using RTI for differentiation provided flexibility in designing interventions for twice-exceptional students who needed acceleration in one subject area and remediation in another. In Robertson and Pfeiffer's (2016) qualitative study, data were collected from a variety of key stakeholders on the effectiveness of a procedural guide for the use of RTI with gifted students. Robertson and Pfeiffer (2016) discovered overwhelming support for the inclusion of specific guidelines that supported twice-exceptional students. The feedback received from experts in RTI and gifted education led the researchers to include language on twice-exceptional students in their procedural guide and a section on how to support twice-exceptional students through the use of RTI (Robertson & Pfeiffer, 2016).

McCallum et al. (2013) conducted a quantitative study of 1,242 third graders in a district in the southeastern United States. The researchers' goal was to determine how many twice-exceptional students would be identified using a discrepancy model through the RTI process. Each student was given a math and reading curriculum-based measure (CBM) and the researchers looked for students who scored in the top 16% to 2.5% range in one area and below a cut score of 90 in the other, which was the score typically used for identifying students in need of intervention services. The researchers found the wider the range used for students who had high scores in one area (up to 16%), more twice-exceptional learners were identified. McCallum et al. (2013) determined the RTI process was effective in identifying twice-exceptional learners because CBM is already being used in a majority of schools and districts. The researchers suggested using a less strict discrepancy model because some twice-exceptional learners showed average performance in math or reading when in actuality, they were underperforming based on

their capabilities. Similarly, Crepeau-Hobson and Bianco (2013) suggested the use of above-grade-level assessments during Tier 1 of the RTI process so educators could focus on a strengths-based perspective that recognized students' gifts in addition to screening for potential learning disabilities. Crepeau-Hobson and Bianco (2013) also suggested RTI be used to actively monitor twice-exceptional students' progress. In Crepeau-Hobson and Bianco's (2013) case study, educators used progress monitoring to detect a decline in a student's academic achievement due to his disability. The decline may have gone unnoticed due to the masking effect, in which the student performed at an average rate because his giftedness helped make up for his disability. However, the school was able to implement intervention services that addressed his needs. McCallum et al. (2013) and Crepeau-Hobson and Bianco (2013) both recognized limitations in their studies. McCallum et al. (2013) stated one limitation was the study was only meant to identify twice-exceptional students who might be gifted or have a specific learning disability in reading or math, which is a limited group in terms of the wide range of disabilities twice-exceptional learners exhibited. McCallum et al. (2013) also recognized despite having a large sample size, their study was completed in one specific district and was limited to third graders. Crepeau-Hobson and Bianco (2013) also studied an individual student, which provided a limited view of twice-exceptional learners' experience with the RTI model in the classroom. Regardless of these limitations, both studies showed how the RTI model was successfully used to identify and monitor the progress of twice-exceptional students.

Pereles et al. (2009) conducted a case study of a twice-exceptional student whose dual needs were addressed using the RTI model. The boy was struggling academically and behaviorally, so a team of teachers developed a plan to provide independent study projects that capitalized on this student's interests in social studies. The teachers also discovered the student

had a profound lack of ability to decode and write and was provided with intervention services to assist with those needs. When this student's gifts and disabilities were both addressed he felt more successful as a student and his negative behaviors decreased (Pereles et al., 2009). This use of the RTI model provided an example of giftedness being highlighted while also accommodating a student's disability, which was a strategy discussed in further detail in the next section.

Highlighting giftedness. In order to ensure the success of twice-exceptional students in gifted programs, research determined it was important to highlight areas of giftedness when considering accommodations and adaptations (Barnard-Brak et al., 2015; Fugate et al., 2013; Missett et al., 2016; Pereles et al., 2009; Weinfeld et al., 2005). This strategy allowed students to feel successful and take pride in their special abilities.

Barnard-Brak et al. (2015) found some teachers viewed twice-exceptional students as "lazy" or "unmotivated" (p.78) because the students were able to discuss a topic in great depth but were not able to write about it. This caused teachers to think some twice-exceptional students were not dedicated enough to succeed in gifted programming when it was a perfect example of how curriculum could have been modified to allow students to use their verbal gifts to accommodate for their disability in writing (Barnard-Brak et al., 2015). This was an example of giftedness being ignored rather than celebrated. On the contrary, Weinfeld et al. (2005) conducted a qualitative study and surveyed students and teachers to understand what twice-exceptional students needed to learn. The survey results led to an action plan that supported twice-exceptional learners. For example, students who were verbally gifted but had writing disabilities were allowed to use oral dictation to complete writing assignments. Students who were gifted creatively were able to build models rather than write essays (Weinfeld et al., 2005).

Missett et al. (2016) and Pereles et al. (2009) both conducted case studies on twice-exceptional students with emotional and behavioral disorders and found that allowing them to focus on their gifts and interests was beneficial. Highlighting the students' gifts encouraged them to feel invested in their work and lowered the number of behavioral disruptions. Missett et al. (2016) conducted a case study and observed a gifted education teacher interacting with a boy who was a gifted writer but also had an emotional/behavioral disorder. The researchers observed the teacher focused on correcting the boy's spelling and grammar even when it was not part of the curriculum. The teacher often chose topics for the student to write about because she was worried he would write about inappropriate topics. The boy was not able to write freely which was a task he enjoyed. When given the opportunity to work with classmates and choose his topics, he behaved well. The gifted education teacher focused on his disabilities but did not let his gifts shine (Missett et al., 2016). Similarly, in Pereles et al. (2009) case study the student's emotional and behavioral struggles diminished when he was given time to work on a project he was passionate about.

Fugate et al. (2013) also discovered the need to highlight the creative gifts often found in students with ADHD. The researchers studied 68 students at a summer camp for gifted children at a university in the Midwest. Some of the participants were gifted and some were twice-exceptional and the researchers compared the two groups. Fugate et al. (2013) found higher levels of creativity in students who were gifted and had ADHD. Typically, these students also struggled with excessive talking, difficulty with task commitment, and difficulty sitting still. Fugate et al. (2013) suggested using creative tasks as both a pathway to learning and the means to show new learning benefitted gifted students with ADHD. Barrons, Evans, Baranik, Serpell, and Buvinger (2006), as cited in Fugate et al. (2013) stated that students with ADHD "have

significantly higher dropout rates” and “more frequently experience failure in school” (p.235), so the researchers emphasized the importance of highlighting the gifts of students with ADHD (Fugate et al., 2013).

With the exception of Barnard-Brak et al. (2015), each of these studies included relatively small sample sizes, which was considered a limitation. However, when the studies were considered together, showed overwhelming support for highlighting twice-exceptional students’ gifts. The next section described the effects these accommodations, as well as participation in gifted programming and the twice-exceptional label, had on twice-exceptional learners’ self-esteem.

Effects on Self-esteem

According to Gaesser (2018), gifted children experienced anxiety and emotional stress due to a variety of factors including a lack of understanding of their asynchronous development and dual needs. This stress was exacerbated when a disability was also part of a student’s life (Mayes & Moore, 2016). While a traditional gifted label tended to show scores that were more positive on measures of mental health (Jones, 2013), twice-exceptional students did not always share the same experience. Multiple researchers found focusing on twice-exceptional learners’ gifts and not just their disabilities helped them understand and appreciate what was special about them, therefore promoting their overall self-esteem and self-efficacy (Mayes & Moore, 2016; Pereles et al., 2009; VanTassel-Baska et al., 2009; Weinfeld et al., 2005; Wang & Niehart, 2015). However, researchers also discovered the twice-exceptional label did not always result in positive effects on students’ self-esteem (Foley-Nicpon et al., 2015; Ronksley-Pavia et al., 2019b). The following sections discussed the discrepancies discovered in the research.

Positive effects. When adaptations and accommodations were made to the curriculum, students felt empowered and took pride in their learning (Pereles et al., 2009; Weinfeld et al., 2005). In the case study conducted by Pereles et al. (2009), a student who previously had many behavioral issues and shut down when he was asked to read or write, started to blossom when his disability and gifts were both identified and addressed. When he spent time with the gifted and talented teacher and focused on a project in an area of interest he showed pride and took responsibility for his learning. Simultaneously, he was making progress in his area of disability by receiving intervention services. While he still struggled with reading and writing activities, it was reported that his negative responses to these activities were improving. His teachers reported he no longer tore up assignments or caused disruptions to his classmates but occasionally put his head down or refused to complete assignments. Even though the efforts to meet the needs of his disability were still a work in progress, his high verbal abilities and content knowledge of social studies topics were being met, which caused him to feel more successful and improved his self-esteem (Pereles et al., 2009).

In Weinfeld et al.'s (2005) qualitative study meant to determine if accommodations were enabling or empowering, students stated accommodations such as the use of projects or other alternatives to written products made them feel empowered. Twice-exceptional students also stated appropriate accommodations and adaptations helped move them from dependence to independence and better demonstrate their knowledge. Twice-exceptional students' self-esteem and sense of empowerment improved when accommodations were put in place to support their needs (Weinfeld et al., 2005).

In data analyzed by VanTassel-Baska et al. (2009), many of the parents who were interviewed reported themes of stronger self-esteem, confidence, and pride in their children after

they had the opportunity to participate in gifted programming. One parent even commented on how their child's self-esteem was negatively affected when he was removed from gifted programming when his grades slipped (Van-Tassel-Baska, et al., 2009).

Researchers discovered students who had both disability and giftedness labels took pride in their gifted label, which increased their self-esteem (Mayes & Moore, 2016; Wang & Neihart, 2015). In a qualitative study conducted by Wang and Neihart (2015), the researchers found consistent results among a group of six students who were all labeled as twice-exceptional, with their disabilities ranging from dyslexia to emotional disorders to ADHD. Each student was aware of their areas of giftedness and showed great pride in doing well in those subject areas. The students noted this self-confidence was almost enough to get them through the subjects they struggled with (Wang and Neihart, 2015). Similarly, Mayes and Moore (2016) found in their interviews with eight twice-exceptional African American students that the students had very different views of their labels. Most of the students stated feeling "stupid" or "dumb" when they were labeled with a disability but felt "special" or "happy" when they found out they were gifted (Mayes & Moore, 2016, p.177). If these students' disabilities were the only characteristics recognized by their teachers and their gifts were recognized or valued, they might not have gained the confidence needed to feel successful in school and achieve their full potential (Mayes & Moore, 2016). Both Wang and Neihart (2015) and Mayes and Moore (2016) noted limitations were present in their research. The groups studied were small and homogenous, with one group consisting of all boys and the other of all African American students. However, both studies showed examples of gifted labels promoting students' self-esteem even when a disability was also present. The following section outlined contrasting results in the literature. Researchers

found students with twice-exceptional labels sometimes struggled to understand their dual identities and struggled with self-esteem.

Negative effects. In contrast to the previous studies, Foley-Nicpon, Assouline, and Fisenburg (2015) and Ronskley-Pavia et al. (2019b) found no correlation between the gifted label or programming and the positive self-concept of twice-exceptional students. Foley-Nicpon et al. (2015) conducted a quantitative study of 64 twice-exceptional students with specific learning disabilities and autism spectrum disorders. The researchers investigated the students' self-concept profiles in relation to their cognitive abilities and whether they participated in any educational services. Foley-Nicpon et al. (2015) discovered no relationship between ability, educational services, and self-concept among twice-exceptional students. The researchers noted their findings were inconsistent with previous research studies that linked gifted services with positive self-concept. The researchers also noted that identity development might differ between twice-exceptional and traditional gifted students and that more research needed to be done to find out why services are positively related to self-concept for gifted students, but not for twice-exceptional students. They suggested a qualitative inquiry should be conducted that would ask students what they thought it meant to be identified as both gifted and as having a disability and how it affected their self-concept (Foley-Nicpon et al., 2015).

Many twice-exceptional students shared feelings of not fitting in. Danielan & Milles (2015) and Ronskley-Pavia et al. (2019b) discovered twice-exceptional students often did not feel they belonged with gifted children or children with disabilities. Ronskley-Pavia et al. (2019b) conducted a qualitative study consisting of interviews with eight twice-exceptional children. The children reported feelings of stigma attached to both their disabilities and giftedness and claimed they did not feel like they belonged to either group. As cited by

Ronskley-Pavia (2019b), Chen, Rubin, and Li (1997) “indicated that students who are most successful at school are those who are actively engaged prosocially with their peers and teachers” (p.27). A majority of the children interviewed did not have well-formed relationships with their classmates or teachers, which caused negative feelings towards school. To help with this issue, Danielan & Milles (2015) suggested parents served as role models, taught friendship skills, and modeled positive conversations for their twice-exceptional children.

Conclusion

Once a child was identified as twice-exceptional, the work of supporting them was not complete. While it took more time and effort, researchers discovered more success for twice-exceptional learners when all key stakeholders worked together to design plans that met their unique needs. When this was done, twice-exceptional students found success in school, developed a higher self-concept, and were able to use their talents and gifts to show how intelligent they truly were. The next chapter summarized the key findings from the literature review and reminded readers of the importance of this topic.

Chapter Three: Summary

The literature review addressed the following question: In light of what is known about differentiated instruction, how can the educational system best meet the needs of twice-exceptional learners? Throughout the review, researchers outlined the importance of using a variety of assessment methods to identify twice-exceptional learners. These methods included teacher training on the characteristics of twice-exceptional learners, teacher observation, and performance assessments in addition to academic and achievement tests. It also became clear many stakeholders needed to work together to identify and support twice-exceptional learners. Without the involvement of teachers, families, and the students themselves, the dual needs of

twice-exceptional learners would not have been identified or met. The literature also reviewed the effects of gifted identification and the twice-exceptional label on students' self-esteem, which resulted in mixed reviews. The following chapter reviewed the proposed problem addressed in the literature review, revisited the importance of this topic for all key stakeholders, and summarized the main points addressed in the literature review.

Review of the Proposed Problem

The literature review explored multiple themes in an attempt to address the essential question: In light of what is known about differentiated instruction, how can the educational system best meet the unique needs of twice-exceptional learners? First, the issue of under-identification of twice-exceptional learners was addressed. Researchers discovered twice-exceptional students were not identified as often by traditional academic and achievement tests. Rather, performance-based assessments (VanTassel-Baska et al., 2007) and teacher training and observation (Horn, 2015) were more effective in identifying twice-exceptional learners. In addition, teachers did not identify twice-exceptional students for gifted programming due to the masking effect (Bianco & Leech, 2010).

Researchers also found teachers experienced difficulty differentiating for the dual needs of twice-exceptional students. Often, the twice-exceptional students' disabilities were accounted for, but the students' gifts were not addressed (Missett et al., 2016; Wormald et al., 2015). The involvement of key stakeholders in the collaboration process provided more success for twice-exceptional learners (Horn, 2015; Pereles et al., 2009), but sometimes the students were not included in the process (Wormald et al., 2015).

The research was inconclusive on the effects gifted programming had on twice-exceptional learners' self-esteem. While some students reported pride in their giftedness despite

their disability (Mayes & Moore, 2016; Wang & Neihart, 2015), others struggled with the dual label and felt they did not fit in with either group (Ronksley-Pavia et al., 2019b). The following chapter discussed possible future studies to address these inconclusive results.

Importance of the Topic

Twice-exceptional students who were not identified did not receive the differentiation needed to be successful in school. According to Robertson and Pfeiffer (2016), gifted children often remained unchallenged in the classroom, which resulted in underperformance and qualified the students as at-risk and in need of interventions. Also, if students' giftedness was strong enough to mask their disabilities the students did not receive the necessary accommodations. If a student's disability was diagnosed then it was the only characteristic many teachers paid attention to and the student was not challenged in their area of giftedness (Missett et al., 2016).

This compilation of research emphasized the need for more variety in assessment methods used to identify twice-exceptional learners. Without proper identification, twice-exceptional learners did not receive the support needed to be successful in school. Horn (2015) recognized the need for administration, general education teachers, and gifted education teachers to work together to identify gifted learners in underserved populations. Rather than employing academic and achievement tests, the Young Scholars Program utilized co-teaching strategies to help identify gifted learners. The program also actively implemented critical thinking skills into lessons in order to assess students' special abilities. This resulted in more identification of gifted students in underserved populations, including students with special needs (Horn, 2015).

Missett et al. (2016) and Fugate et al. (2013) highlighted the importance of teachers' attention to students' gifts as well as their disabilities. Rather than allowing twice-exceptional students' gifts to flourish, teachers focused solely on deficits (Missett et al., 2016). Similarly,

Fugate et al. (2013) mentioned the importance of highlighting the creativity of students with ADHD as a pathway to learning and a means to show their learning. Both Missett et al. (2016) and Fugate et al. (2013) determined teachers needed a better understanding of the dual differentiation necessary for twice-exceptional learners. Rather than focusing solely on deficits, teachers needed to allow twice-exceptional students to explore their areas of giftedness.

Without a positive sense of self, students cannot achieve in school. The research in Chapter Two attempted to address the effects of gifted identification and the twice-exceptional label on students' overall self-esteem and researchers found mixed results. Wang and Neihart (2015) found a positive correlation between gifted identification and self-esteem in a group of six twice-exceptional students. The students spoke highly of their gifts and the researchers noted it seemed their achievement in some areas enabled their confidence in other areas. The research of Ronksley-Pavia et al. (2019b) refuted the idea that twice-exceptionality resulted in higher levels of self-esteem. In fact, the twice-exceptional participants in the study completed by Ronksley Pavia et al. (2019b) felt they did not belong in either group and reported teachers only paid attention to their disabilities as well as having mainly negative interactions with teachers (Ronksley-Pavia et al., 2019b). It was important for key stakeholders to have an understanding of how a gifted or twice-exceptional label affected students so their social and emotional well-being could be supported.

Summary of the Main Points of the Literature Review

Twice-exceptional learners needed dual differentiation that addressed both their disability and area of giftedness. This differentiation did not happen if the twice-exceptional learners were not identified. Bianco and Leech (2010) brought attention to the masking effect in their research. The researchers provided general education, special education, and gifted education teachers

with a vignette that described a twice-exceptional fourth grader. When given no label, teachers overwhelmingly identified the student for gifted programming and noted the characteristics that made the student exceptional. However, when a disability label was added significantly fewer teachers identified the student as gifted and survey results found more descriptions of the student's problems in the classroom (Bianco & Leech, 2010). Similarly, Ottone-Cross et al. (2016) discovered the use of the KTEA-3 achievement test resulted in average scores for gifted and learning disabled students, confirming the masking effect in which students used their gifts to make up for their disability, yet did not fail enough to be recognized as learning disabled (Ottone-Cross et al., 2016). The unique needs of twice-exceptional learners were not differentiated for if they were not identified.

Researchers proposed some strategies that could be beneficial for supporting the dual differentiation needs of twice-exceptional learners. Wormald et al. (2015) concluded organizational supports were beneficial in their case study of a twice-exceptional student who was gifted and had a physical disability that affected his motor coordination. Khan and Asif (2017) confirmed this theory in their theoretical analysis of differentiated instruction found beneficial for students who were learning disabled. Khan and Asif (2017) found students with disabilities responded well to graphic and visual representations.

While accommodating for twice-exceptional learners' disabilities was valuable, highlighting and addressing their gifts was equally as important. Pereles et al. (2009) and Robertson and Pfeiffer (2016) believed this dual differentiation could be accomplished through the RTI model. Pereles et al. (2009) overviewed the case of a young boy who struggled academically and behaviorally. The boy was identified as twice-exceptional, which led his teachers and family to work together to support his dual needs. The teachers worked together to

provide an intervention for his literacy needs and time to work with the gifted education teacher to complete a project he was passionate about. This dual differentiation led to fewer behavioral issues and a greater sense of self-esteem for the student (Pereles et al., 2009). Robertson and Pfeiffer (2016) also believed the RTI model could be used to differentiate for twice-exceptional learners' unique needs. The researchers surveyed experts in the fields of gifted and special education on the effectiveness of an RTI procedural guide they were developing. Many experts noted a need for strategies to support twice-exceptional learners in the manual, which led Robertson and Pfeiffer to include a new section in the guide to support the unique needs of twice-exceptional students (Robertson & Pfeiffer, 2016). The researchers concluded the RTI model accounted for the dual differentiation needs of twice-exceptional students.

Conclusion

Researchers indicated work needed to be done in the area of identifying and supporting twice-exceptional learners. A wider variety of testing methods were needed. Teacher training in the identification and accommodation processes of twice-exceptional learners was also an area in need of improvement. One area of research that resulted in overwhelmingly positive results was the inclusion of key stakeholders in each of these processes. The involvement and support of students, families, teachers, and administration indicated positive results for twice-exceptional students. Chapter Four outlined the insights gained through the process of compiling this literature review. In addition, possible applications for schools and teachers were explained as well as recommendations for future studies.

Chapter Four: Discussion/Application and Future Studies

Schools and educators have a lot of work to do before they will fully understand how to identify and support the dual needs of twice-exceptional learners. Twice-exceptional students are

not being identified at the rate they should be, teachers lack knowledge on how to identify and differentiate for their needs, and twice-exceptional students sometimes deal with low self-esteem due to a lack of understanding about their labels and identities. The following sections will outline insights gained from the research, ways the knowledge gained could be applied in the field of education, and suggestions for future studies. The suggested studies could help educators and the school system better understand the needs of twice-exceptional learners and how to differentiate for their unique needs.

Insights Gained from the Research

The research outlined in Chapter Two addressed potential solutions to the essential question: In light of what is known about differentiated instruction, how shall the educational system best meet the unique needs of twice-exceptional learners? To meet twice-exceptional learners' needs, those needs first have to be identified. Educators need to be aware of the dual exceptionalities present in their students and understand each child is a unique individual with complex needs. Once a child is identified as twice-exceptional, it is necessary to involve all key stakeholders in the process of supporting them. The Article Tracking Matrix (see Appendix) makes it clear how beneficial it is to involve stakeholders in twice-exceptional learners' experiences. Asking the child what they need, involving families in the process of supporting twice-exceptional learners, and co-teaching with other staff members can all be beneficial for general, special, and gifted education teachers as they attempt to support their twice-exceptional students. In addition, involving administration and policymakers in the decisions affecting twice-exceptional learners is important. Since each stakeholder has their own unique set of expertise, they can work together to provide accommodations and strategies to support twice-exceptional learners.

It is also important to understand a gifted or twice-exceptional label can affect children's self-esteem and how the students view themselves. It might be easy for a teacher to assume that all students with a gifted label have a positive sense of self because of their special abilities, but that is not always the case. As referenced in the Article Tracking Matrix, many studies have been done on the self-esteem and overall self-concept of twice-exceptional learners. However, upon further inspection those studies yielded mixed results. Twice-exceptional children do not necessarily feel positively about their labels. Unless children are able to understand their dual exceptionalities and know how to advocate for their needs, they may suffer academically, socially, and emotionally. The following section outlines how the knowledge gained from this review can be applied in schools and classrooms.

Application

Gifted program coordinators and administrators need to address the under-identification of twice-exceptional learners. District-level leadership often decides which tests will be used to identify gifted learners when testing is done across an entire grade level or school. Leadership needs to consider whether or not the test chosen is appropriate for identifying a wide variety of gifted students and if the test has a history of bias. If the test being used typically identifies mainly academically proficient gifted learners or students who are White and at a higher socioeconomic level, the decision-makers need to consider an alternative. The alternative could be to identify students using a combination of teacher and family observation, performance-based assessments, and academic and achievement tests.

The research indicates a lot of training in the identification of twice-exceptional learners needs to be done for general, gifted, and special education teachers. Bianco and Leech (2010) found all three types of teachers were not able to look past a disability label to identify the gifted

characteristics of a student, with the special education teachers recommending the student for the gifted programming the least. The disability masked the giftedness and was all the teachers could pay attention to (Bianco & Leech, 2010). It was an imaginary vignette, but the data led one to believe under-identification is happening in many classrooms and schools. General, special, and gifted education teachers need to understand that children are multi-faceted and have areas of strength and deficits. If special educators believe a child with a disability is just that, twice-exceptional learners' gifts will not be recognized. Conversely, if a gifted education teacher believes a child with a gift is capable of achieving in all areas, twice-exceptional learners' needs will not be recognized. This was proven in the study completed by VanTassel-Baska et al. (2009) in which twice-exceptional children were removed from gifted programs because the students were not getting good grades. The twice-exceptional learners' needs were not being accommodated, which resulted in removal from programming and the students' gifted needs were no longer being met (VanTassel-Baska et al., 2009). Gifted education teachers need to be aware they may have twice-exceptional students in their classes. Special education and gifted education teachers need to collaborate to provide twice-exceptional students with the support needed in the gifted classroom. This could mean providing support staff to assist twice-exceptional students in gifted programming or special education and gifted education teachers implementing a co-teaching model. Similarly, use of the RTI model could provide twice-exceptional students with the intervention support needed while the students also receives enrichment opportunities through gifted programming.

The research results also indicate the need for a better understanding of the social and emotional needs of twice-exceptional learners. Researchers found mixed results when interviewing groups of students about their gifted or twice-exceptional labels. Wang and Neihart

(2015) found that twice-exceptionality helped boost students' self-esteem, but Ronksley-Pavia et al. (2019b) found overall negative results from the group of students interviewed. Ronksley-Pavia et al. (2019b) indicated twice-exceptional learners did not identify with their gifted peers because they viewed it as being nerdy or snobby. The students also did not identify with other children with special needs because they viewed disabilities as being detrimental to their image (Ronksley-Pavia et al., 2019b). Regardless of the research results, all key stakeholders need to remain invested in nurturing the whole child, despite any labels. In addition, general, special, and gifted education teachers would all benefit from training to help understand how twice-exceptional learners' dual needs affect their identity. Families also need to be invited into conversations regarding children's twice-exceptionality in order to help them understand their multi-faceted identities so they can support them at home. All stakeholders need to be aware of twice-exceptional learners' academic, social, and emotional needs so they can provide the appropriate accommodations to support their needs but also allow them to use their gifts to shine. If a twice-exceptional student is gifted creatively but struggles with writing they can be given the opportunity to demonstrate knowledge through a performance, an art project, or orally. In addition, giving twice-exceptional students the opportunity to teach others or contribute to the classroom in their area of strength makes them feel they are an important part of the classroom community, therefore contributing to their social and emotional well being.

Some of the qualitative studies addressed in the literature review were completed with small sample groups, which can be problematic because it is more difficult to determine strong themes that result from the data. In addition, the information collected in a qualitative study and the subjects' responses can be open to interpretation by the researchers. However, case studies allow the reader to get in-depth information about the feelings and experiences of the groups

being studied. In the case studies and qualitative studies outlined in Chapter Two, it was possible to hear real-life experiences of twice-exceptional learners, which can be beneficial for educators. This information about positive and negative experiences can allow educators to address the specific needs of twice-exceptional learners, involve the students in the learning process, and advocate for their giftedness to be highlighted. In the following section, suggestions are made for future studies that could be done with larger sample groups. Larger, more diverse sample sizes would provide more consistent themes and reliable data that could be used to guide the educational system towards creating a more inclusive space for twice-exceptional learners.

Suggestions for Future Studies

Multiple studies were reviewed to address the research question: How can the educational system best meet the unique needs of twice-exceptional learners? Many researchers conducted qualitative studies with relatively small sample sizes. However, those studies provided insight into the daily lives and experiences of twice-exceptional learners. This indicates a need for larger studies conducted in a quantitative or mixed methods manner. It would be beneficial to conduct studies looking into the perceptions twice-exceptional students have of the school system and the students' experiences both in gifted programming and the general education classroom. A mixed-methods study that collected data, yet also allowed students to elaborate on answers to certain questions, could be targeted towards a larger and more diverse sample size of children all over the country from diverse backgrounds. A study of this sort could help address the mixed results found in studies related to the effects of gifted programming on twice-exceptional learners' self-esteem.

Similarly, more studies that compare the self-esteem of traditional gifted and twice-exceptional learners would be helpful, such as the study completed by Foley-Nicpon et al.

(2015). These studies could identify what effects the disability label has on twice-exceptional learners. This could give educators and school systems a better idea of the importance of highlighting twice-exceptional learners' gifts and helping them understand their asynchronous abilities.

While Pereles et al. (2009) found success for the use of RTI in a case study, more research needs to be done to discover if it could be beneficial support for schools to support and identify twice-exceptional learners. Barnard-Brak et al. (2015) reported the RTI model is typically used to identify students with learning disabilities and the federal government does not require a specific model to be used nationwide. This leaves the decision of how to implement the model up to individual states. Recently, more professionals are suggesting the RTI model be used to support twice-exceptional learners. Five states (Colorado, Hawaii, Ohio, Utah, and Wisconsin) have designed models that make a point to incorporate high-end learning opportunities in the first tier of instruction. These five states' models also include collaboration between general, special, and gifted education teachers that includes monitoring assessment information and systematic observations of students. Research should be done on the RTI program implementation in these five states to determine if their models are successful in identifying twice-exceptional students. If successful, more states could implement similar models.

Conclusion

While there is a sufficient amount of research addressing the needs of twice-exceptional learners, more needs to be done. Twice-exceptional learners have unique needs that can be confusing and difficult to understand and accommodate. Twice-exceptional learners, their families, and their teachers need to know how to identify their dual needs and advocate for

proper interventions and enrichment. If school systems do not understand what twice-exceptional students need, they will not be able to effectively differentiate for the students' dual needs. When students do not feel that school is a good fit for them, do not feel they are being challenged, or are not being supported, school becomes an uncomfortable place. The educational system and families must continue to work together to support the unique needs of twice-exceptional learners so they can grow and thrive academically and emotionally.

References

- Baldwin, L., Baum, S., Pereles, D., & Hughes, C. (2015). Twice-exceptional learners: The journey toward a shared vision. *Gifted Child Today, 38*(4), 206–214.
doi:10.1177/1076217515597277
- Bannister-Tyrrell, M., Mavropoulou, S., Jones, M., Bailey, J., O'Donnell-Ostini, A., & Dorji, R. (2018). Initial teacher preparation for teaching students with exceptionalities: Pre-service teachers' knowledge and perceived competence. *Australian Journal of Teacher Education, 43*(6), 16–34. doi:10.14221/ajte.2018v43n6.2
- Barnard-Brak, L., Johnsen, S., Hannig, A., & Wei, T. (2015). The incidence of potentially gifted students within a special education population. *Roeper Review, 37*(2), 74-83.
doi:10.1080/02783193.2015.1008661
- Bianco, M., & Leech, N. (2010). Twice-exceptional learners: Effects of teacher preparation and disability labels on gifted referrals. *Teacher Education and Special Education, 33*(4), 319–334. doi:10.1177/0888406409356392
- Crepeau-Hobson, F., & Bianco, M. (2013). Response to intervention: Promises and pitfalls for gifted students with learning disabilities. *Intervention in School and Clinic, 48*(3), 142–151. doi:10.1177/1053451212454005
- Danielan, J. & Nilles, K. (2015). The exceptionality of being twice-exceptional. *Connecting for High Potential*. National Association for Gifted Children. Retrieved from <https://eric.ed.gov/contentdelivery/servlet/ERICServlet?accno=ED571566>
- Foley-Nicpon, M., Assouline, S., & Fosenburg, S. (2015). The relationship between self-concept, ability, and academic programming among twice-exceptional youth. *Journal of Advanced Academics 26*(4), 256-273. doi:10.1177/1932202X15603364

- Fugate, C., Zentall, S., & Gentry, M. (2013). Creativity and working memory in gifted students with and without characteristics of attention deficit hyperactive disorder: Lifting the mask. *Gifted Child Quarterly*, 57(4), 234–246. doi:10.1177/0016986213500069
- Gaesser, A. (2018). Befriending anxiety to reach potential: Strategies to empower our gifted youth. *Gifted Child Today*, 41(4), 186-195. doi:10.1177/1076217518786983
- Heacox, D. (2017). *Making differentiation a habit: How to ensure success in academically diverse classrooms*. Minneapolis, MN: Free Spirit Publishing Inc.
- Horn, C. (2015). Young scholars: A talent development model for finding and nurturing potential in underserved populations. *Gifted Child Today*, 38(1), 19–31.
- Jones, T. (2013). Equally cursed and blessed: Do gifted and talented children experience poorer mental health and psychological well-being? *Educational & Child Psychology*, 30(2), 44–66. Retrieved from <http://ezproxy.csp.edu/login?url=https://search.ebscohost.com/login.aspx?direct=true&db=a9h&AN=87590781>
- Khan, I. & Asif, F. (2017). Relevance of differentiated instruction in special education for anxiety affected learners: A theoretical analysis of learning problems and some strategies. *European Journal of Special Education Research* 2(4), 123-137. doi:10.5281/zenodo.1208726
- Mayes, R., & Moore, J. (2016). Adversity and pitfalls of twice-exceptional urban learners. *Journal of Advanced Academics*, 27(3), 167–189. doi:10.1177/1932202X16649930
- McCallum, R., Bell, S., Coles, J., Miller, K., Hopkins, M., & Hilton-Prillhart, A. (2013). A model for screening twice-exceptional students (gifted with learning disabilities) within a

- response to intervention paradigm. *Gifted Child Quarterly*, 57(4), 209–222.
doi:10.1177/0016986213500070
- Missett, T., Azano, A., Callahan, C., & Landrum, K. (2016). The influence of teacher expectations about twice-exceptional students on the use of high quality gifted curriculum: A case study approach. *Exceptionality*, 24(1), 18–31.
doi:10.1080/09362835.2014.986611
- National Association for Gifted Children. (n.d.). *Twice-exceptional special interest group*. Retrieved May 17, 2020 from <https://www.nagc.org/get-involved/nagc-networks-and-special-interest-groups/twice-exceptional-special-interest-group>
- Ottone-Cross, K., Dulong-Langley, S., Root, M., Gelbar, N., Bray, M., Luria, S., Choi, D., Kaufman, J., Courville, T., & Pan, X. (2017). Beyond the mask: Analysis of error patterns on the KTEA-3 for students with giftedness and learning disabilities. *Journal of Psychoeducational Assessment*, 35(1–2), 74–93. doi:10.1177/0734282916669910
- Park, S., Foley-Nicpon, M., Choate, A., & Bolenbaugh, M. (2018). “Nothing fits exactly”: Experiences of Asian American parents of twice-exceptional children. *Gifted Child Quarterly*, 62(3), 306–319. doi:10.1177/0016986218758442
- Pereira, N., Knotts, J., & Roberts, J. (2015). Current status of twice-exceptional students: A look at legislation and policy in the united states. *Gifted and Talented International*, 30(1–2), 122–134. doi:10.1080/15332276.2015.1137463
- Pereles, D., Omdal, S. & Baldwin, L. (2009). Response to intervention and twice-exceptional learners: A promising fit. *Gifted Child Today*, 32(3), 40-51. Retrieved from eric.ed.gov/contentdelivery/servlet/ERICServlet?accno=EJ849374

- Reis, S., Baum, S., & Burke, E. (2014). An operational definition of twice-exceptional learners: Implications and applications. *Gifted Child Quarterly*, *58*(3), 217–230.
doi:10.1177/0016986214534976
- Robertson, S., & Pfeiffer, S. (2016). Development of a procedural guide to implement response to intervention (RTI) with high-ability learners. *Roeper Review*, *38*(1), 9–23.
doi:10.1080/02783193.2015.1112863
- Ronksley-Pavia, M., Grootenboer, P., & Pendergast, D. (2019a). Bullying and the unique experiences of twice exceptional learners: Student perspective narratives. *Gifted Child Today*, *42*(1), 19–35.
- Ronksley-Pavia, M., Grootenboer, P., & Pendergast, D. (2019b). Privileging the voices of twice-exceptional children: An exploration of lived experiences and stigma narratives. *Journal for the Education of the Gifted*, *42*(1), 4–34. doi:10.1177/0162353218816384
- Ruban, L. (2005). Identification and assessment of gifted students with learning disabilities. *Theory into Practice*, *44*(2), 115-124. doi: 10.1207/s15430421tip4402_6
- Section 1401. (1975). *Individuals with disabilities education act*. Retrieved May 16, 2020 from sites.ed.gov/idea/statute-chapter-33/subchapter-i/1401
- Tallent-Runnels, M. & Sigler, E. (1995). The status of the selection of gifted students with learning disabilities for gifted programs. *Roeper Review*, *17*(4), 246. Retrieved from ezproxy.csp.edu/login?url=https://search.ebscohost.com/login.aspx?direct=true&db=keh&AN=9507105973
- VanTassel-Baska, J., Feng, A., & de Brux, E. (2007). A study of identification and achievement profiles of performance task-identified gifted students over 6 years. *Journal*

- for the Education of the Gifted*, 31(1), 7–34. Retrieved from
eric.ed.gov/contentdelivery/servlet/ERICServlet?accno=EJ777789
- VanTassel-Baska, J., Feng, A., Swanson, J., Quek, C. & Chandler, K. (2009). Academic and affective profiles of low-income, minority, and twice-exceptional gifted learners: The role of gifted program membership in enhancing self. *Journal of Advanced Academics*, 20(4), 702–739. Retrieved from
eric.ed.gov/contentdelivery/servlet/ERICServlet?accno=EJ880572
- Wang, C. & Neihart, M. (2015). Academic self-concept and academic self-efficacy: Self-beliefs enable academic achievement of twice-exceptional students. *Roeper Review*, 37(2), 63-73. doi:10.1080/02783193.2015.1008660
- Weinfeld, R., Barnes-Robinson, L., Jeweler, S. & Roffman Shevitz, B. (2005). Enabling or empowering? Adaptations and accommodations for twice-exceptional students. *TEACHING Exceptional Children Plus*, 2(1). Retrieved from
eric.ed.gov/contentdelivery/servlet/ERICServlet?accno=EJ966532
- Wood, S. (2012). Examining parent and teacher perceptions of behaviors exhibited by gifted students referred for ADHD diagnosis using the Conners 3 (an exploratory study). *Roeper Review*, 34(3), 194-204. doi:10.1080/02783193.2012.686426
- Wormald, C., Rogers, K., & Vialle, W. (2015). A case study of giftedness and specific learning disabilities: Bridging the two exceptionalities. *Roeper Review*, 37(3), 124-138.
doi:10.1080/02783193.2015.1047547