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THE ISSUES IN IDENTIFYING TWICE EXCEPTIONAL STUDENTS: A REVIEW OF THE LITERATURE

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ABSTRACT

This is a review of the literature about twice exceptional students and the difficulties in identifying gifted students with learning disabilities, most specifically reading disabilities like dyslexia, because of compensating and masking abilities, average academic records, and a lack of knowledge about the subpopulation by teachers. Though literature on the topics of dyslexia, learning disabilities, and giftedness exists, there is little to no research that brings all three together. The issues in identifying students that have both a specific learning disability, like dyslexia, and are identified as gifted shows the discrepancy in addressing their needs. With late identification, or at worst, a lack of identification, there are too many students without the necessary interventions. There is no way to know just how many students, past and present, have been excluded from equitable education because of their twice-exceptionality. In this literature review, the authors examine nine articles reviewing models of identification, discuss the findings of qualitative/quantitative studies, and explain the issues in identifying the student who is twice exceptional. We will first define a *twice exceptional student*; secondly, identify the factors that keep them from being correctly identified; and ultimately, discuss the ramifications of not identifying them.

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INTRODUCTION

Desires and dreams of academic success and achievements are on the minds of most parents from the moment they enroll their four- to five-year-old child into pre-kinder or kindergarten. The first few weeks of school hold the glittering promises of student-of-the-month, honor roll, and other celebratory academic achievements. However, as an onslaught of policy forms and district informational handouts make their way home throughout the year, always two stand out the most. The first is the most anticipated by parents—the gifted and talented evaluation consent form. And unfortunately, thanks to the stigma placed on special education and Section 504 (refer to Table 2), the second form tends to bring embarrassment, shame, fear, and even rejection—screening consent for possible learning/reading disabilities. As parents give consent to have their child's intellect evaluated, it is easy to have hopes rise and fall.

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As the months go by, the majority of four- and five-year-old children make their way to kinder graduation because they have satisfied the requirements held by their district and, for the most part, students are quickly screened and identified with disabilities or gifts and given the intervention needed to succeed. Sadly, there are students that are unfortunately bypassed for needed screening. For many gifted and talented (GT) students with learning disabilities, more specifically reading disabilities like dyslexia, the disability tends to hide amongst the successes that these students have throughout their first two or three years in school. This is most common with students who exhibit mild forms of the disability, whose giftedness masks the disability, or those who have created compensatory coping skills. As the text in reading assignments and activities becomes wordier and fewer images are provided per passage, the once *strong* GT reader begins to exhibit issues in reading, issues that were always there, but easily masked or compensated for by the child's gifts. Assumptions are made based on the reading problems that students with dyslexia have. Both teachers and parents tend to mistake a difficulty for

reading with a lack of interest in the material, a reaction towards more challenging texts, or an overall dislike of reading. For the most part, students with dyslexia are diagnosed by the end of kindergarten or 1st grade; however, GT students who do not exhibit overt symptoms of reading disabilities tend to slip even the keenest eyes of both advanced and novice teachers and, worst, bypass even the most reliable of screening/evaluation assessments. At times, a gifted child with mild dyslexia might not be recommended for evaluation until the later grades in elementary which, in many cases, leads to an apathetic attitude towards or weak skills in reading and literacy and a loss of valuable intervention time.

Positionality: This literature review presents the issues of identifying 2e students. The lead author is a parent of a 2e child who was first identified and labeled as a gifted and talented student in kindergarten and was not identified with a learning disability until the second semester of his 2nd-grade year. In kindergarten, the child excelled and brought home high scores on daily assignments and assessments. With an open and strong channel of communication, the teacher and parent would discuss the child's strengths in understanding new concepts and a willingness to participate in activities. The only negative ever discussed was how the teacher would have to call his attention every now and then, but the parent was reassured that most boys his age were easily distracted. In first grade, the child continued to excel in school; however, at home, the parent would notice the struggle and long hours it would take to complete reading and writing homework, especially assignments dealing with sight words, spelling, and reading. Unaccustomed to basic reading foundation skills like sight words and primer level reading practices, the parent sadly assumed that this was the case for all incoming first graders. Unfortunately, the open communication that occurred between the parent and the kindergarten teacher did not occur with the first-grade teacher. After a year of attempts to sit down and discuss homework and reading frustrations at home with the teacher, who would only assure the parent that the child was doing extremely well at school, the parent hoped for the best that the child was only too tired at the end of a long day or was bored by the subject matter. It was later discovered that the children were taking reading tests in groups, and at times as a whole class. This, of course, affected the overall results and grades for the child; these high grades allowed the child to pass on to the second grade without any mention of possible reading issues.

It only took a few weeks into the child's second-grade year for the child's new teacher to notice literacy issues. The 2nd grade teacher was concerned that the child's ability to read and write, compared to the child's ability to comprehend, analyze, and verbally respond did not coincide. After the teacher administered and received the results for the Texas Primary Reading Inventory (TPRI), an early reading assessment administered to all second graders at the school, the teacher had enough data to place the child on an RtI plan (see Table 2). After a few months of trying multiple instructional interventions to help the child, the teacher met with the parent to discuss further steps. The 2nd grade teacher noted that the child was intelligent and excelled when texts were read to him and he could answer questions verbally. Although the child's difficulties were not as obvious as others with learning disabilities, the teacher concluded, after much debating and conferencing with the school's dyslexia coordinator, that the child's gifts were masking the difficulties and issues

commonly seen with dyslexia. Even though the child did not have any academic records of struggling in reading and writing from previous school years, the teacher and parent decided to err on the side of caution. Both teacher and parent were motivated to help the child succeed, so the next step was to have the child screened for reading disabilities, most specifically, dyslexia. He was screened for dyslexia in the second semester of his second-grade year. Though reading disabilities are difficult to identify at an early age because they can easily be mistaken for difficulties faced by emergent readers, it is important to note that two and a half years' worth of intervention was lost. Because the child excelled in many subjects other than reading, the claims by teachers were either *boys will be boys*, or that he was getting lazy during reading time. As for the parent, accustomed to teaching high school courses, she believed his struggle was because of a lack of interest in reading. Both teachers and parent were unaware of the child's ability to mask his struggles by guessing at words and textual meaning by using text images or context clues. There were even times when the child was piecing together understanding through class or group discussions. After screening for dyslexia, it was determined that the child's giftedness helped mask his mild dyslexia symptoms. A Section 504 plan (refer to Table 2) with interventions was established to help the child learn. Unfortunately, by the time all screenings and meetings were held, the child was not placed in the school district's dyslexia program, nor did the Section 504 accommodations begin until late February of his second-grade year. More needs to be done to help children like him. Though gifted, 2e children struggle, at times silently, with the symptoms of their disability (ies). It is vital that researchers invest in this area of study to help this subpopulation truly meet their academic potential without the common issue of being bypassed or ignored, the result being academically devastating and life-altering for many.

METHODOLOGY

Search Strategy: A literature review search was conducted using WorldCat databases, which according to Galvan and Galvan (2017), casts a wide net "for identifying potential research materials" because it "searches a virtual database consisting of the catalogues of about 72,000 libraries in 170 countries and territories" (p. 20). As documented in Table 2, ERIC EBSCO was searched, as well. The date range for the article searches was set from January 2004 through May 2019. Parameters were set: *Peer-Reviewed*, and *Full Text*. The lead researcher conducted seven searches in total. The first five searches were conducted using ERIC EBSCO because of the database's connection to education. In the first search, the lead researcher used the terms: "dyslexia," "gifted and talented students," and "identification." When the search yielded no results, terms were changed. The second set of terms were "reading disabilities," "gifted students," and "identification." There was only one result. Terms were changed again for a third search to "learning disabilities," "gifted students," and "identification," which yielded sources. It is important to note that the only two terms that changed throughout the first three searches in ERIC EBSCO were "dyslexia" and "gifted and talented students." For instance, the second search broadened from "dyslexia" to "reading disabilities," and then needed to be changed to "learning disabilities." The search of "gifted and talented students" was changed to "gifted students." Unfortunately, there were no sources found that linked both a specific learning disability like dyslexia to giftedness which, as

previously mentioned, is one of the main reasons for this literature review. After the third search, which yielded 15 sources, of which 6 sources were relevant because at least 2 of the 3 searched terms were in the titles, it became apparent that search terms would have to be changed yet again in a fourth search. So, keywords found in titles or keywords of the sources located from the second and third searches were reviewed. Galvan and Galvan (2017) claim that “examining an article entry” will give you “‘Subject Keywords’ [...and] these descriptors may point you to related topics and other sources” (p. 32). Examining the keywords and titles of the sources located helped in finding better terms; thus, the use of new terms in a fourth search, “twice exceptional students” and “identification,” proved successful, yielding 21 sources of which 6 were relevant.

Galvan and Galvan (2017) also recommend that researchers “seek one-on-one assistance from a reference librarian [...because of their] specialize[d] knowledge of the databases and journals” (p. 19), so with the help of an Information Literacy Librarian from TAMU Killam Library, searches five and six were conducted with just the term, “dyslexia test” in the former, and the terms “dyslexia” and “academically gifted” in the latter. The same date parameters and limiters were used with this search, as well. Searches five and six using the ERIC EBSCO Database yielded a combined result of 39 sources; searches five and six consisted of one relevant source. It was the same source from both searches. With a last search for sources, the lead researcher relied on WorldCat using the same parameters and limiters as in previous searches. The search terms used in WorldCat were “dyslexia test” and “academically gifted.” The search yielded 41 sources of which one was relevant but repeated from searches five and six. There were 113 sources located from the seven searches conducted, as seen in Table 1. After combining the 113 sources located from both ERIC EBSCO and WorldCat, the author began the exclusion process in search of relevant sources for the literature review as illustrated in Figure 1. From 113 sources, the author excluded sources if (a) titles did not have or refer to at least 2 of the 3 search terms, (b) titles focused on post-secondary education rather than that of elementary, (c) titles focused on disabilities other than learning disabilities, and if (d) titles were repeated throughout the seven searches. Through careful examination of titles, the researcher excluded 103 sources from the complete search, leaving 10 possible sources. After reading abstracts and even one source completely, the author then excluded only one more source. Though the title indicated that there could be gifted students within a special education population, at the end of reading the full source, the researcher noted that students in the study did not fit the researcher’s chosen population for the literature review. Nine total sources evolved as the focus of this literature review. Those nine have been noted alphabetically in Table 1, column 5. The superscript numbers help identify the 9 sources of which several are repeated.

FINDINGS

The Lack of Consensus in Terminology: There is no doubt that the power of a definition makes all the difference when understanding a concept; however, issues arise when multiple definitions are given, which leads to different understandings of said concept. In the vast and ever-changing world of education, this is no less true. Unfortunately, a lack of

terminological consensus in the literature leads scholars, educational professionals, and political powers-to-be to establish their own understandings of certain populations, and the educational needs to be addressed. As noted by McKenzie (2010), the issue with identifying students as gifted and talented and learning disabled is because of the vast number of definitions used to define them; there is a “chasm between the formal definition and the operational (albeit insufficient) definition of SLD [specific learning disability], practitioners and diagnosticians have continued to utilize discrepancy as a centerpiece of the assessment process” (p. 162). If one struggles to identify solely those with learning disabilities, or solely those with gifts, then identifying those with both becomes a daunting or even impossible task indeed. The irony behind multiple definitions for a select set of terms is what leads to a spectrum of issues, not solutions, when identifying 2e students, thus delaying and possibly even denying much needed intervention. When professionals make discrepancy a key factor in any screening process, they create a disparity in the way 2e students are identified and taught; it is then that gifted and talented children with learning disabilities suffer. In Table 2, the lead researcher presents definitions related to the literature review’s main topic. *Gifted and talented/gifted and learning disabled (LD)* are terms used to define students with a singular identification; *twice exceptional (2e)* and *gifted/learning disabled (G/LD)* define individuals identified with both *giftedness* and *disability*. *Response-to-Intervention (RtI)* is defined because of its occurrence throughout the literature. For this review, the lead researcher has chosen to use the following terms defined by Crepeau-Hobson and Bianco (2011): gifted and talented (GT), learning disabled (LD), and twice-exceptional student (2e student) which is synonymous with Krochak and Ryan’s (2007) *gifted/learning disabled (G/LD)*. Response to Intervention is referred to as RtI; for this term, the researcher is also following Crepeau-Hobson and Bianco’s (2011) definition. Two terms are pertinent in understanding why 2e identification is difficult. Throughout the literature, there are no explicit definitions for the terms *masking* and *compensating*. The authors use these terms to detail the characteristics and attributes of 2e students; unfortunately, researchers have found it sufficient to use the terms in ways that have readers construing and inferring their own understanding of the words. As previously mentioned, the lack of consensus in terminology in the literature is a main concern in identifying gifted students with disabilities, so it is duly noted that there is a lack of set definitions for these terms.

Benefits of RtI and Multi-Faceted Approaches: Multi-tiered systems of support (MTSS) like RtI is a widely known and commonly used assessment method for addressing the needs of struggling students with hopes and intentions of finding ways to help them learn. This tiered system has worked well in the last few decades in identifying students who need more than just the traditional whole class instruction provided in regular classrooms. In tier 2, students who are non-responsive to the typical classroom instruction are then given “supplemental instruction via *standard treatment protocol* methodologies designed for the acquisition of new skills, *problem solving* (e.g., individually tailored instructional modifications and/or accommodations), or, [...] a combination of each” (Berkley *et al.*, 2009, in McKenzie, 2010). For many students, learning and behavioral issues are placated and resolved with tier 2 interventions; however, when students still struggle to learn with tier 2 interventions, they are then moved to tier 3, “which incorporates more intensive intervention and

Table 1. Terms and Definitions Related to the Identification of Twice Exceptional Students

Term	Definition
<i>dyslexia</i>	<ul style="list-style-type: none"> • “Dyslexia is a specific learning disability that is neurobiological in origin. It is characterized by difficulties with accurate and/or fluent word recognition and by poor spelling and decoding abilities. These difficulties typically result from a deficit in the phonological component of language that is often unexpected in relation to other cognitive abilities and the provision of effective classroom instruction. Secondary consequences may include problems in reading comprehension and reduced reading experience that can impede growth of vocabulary and background knowledge” (International Dyslexia Association, 2019). • “An LD characterized by severe reading and/or spelling difficulties at word level (Snowling, 2000)” (van Viersen et al., 2016, p. 190).
<i>gifted, gifted and talented (GT), giftedness</i>	<ul style="list-style-type: none"> • “‘Children [...] youth, who are identified at the preschool, elementary, or secondary level as possessing demonstrated or potential abilities that give evidence of high-performance capability in areas such as intellectual, creative, specific academic or leadership ability’ (Purcell, 1978)” (Crepeau-Hobson and Bianco, 2011, p. 102). • “‘As exceptional potential and/or performance across a wide range of abilities in one or more of the following areas: general intellectual, specific academic, creative thinking, social, musical, artistic, and kinesthetic’ (Alberta Education, 2006b)” (Krochak and Ryan, 2007, pp. 45-46). • “‘Giftedness was defined as a high IQ score on a validated intelligence test (Lovett and Lewandowski, 2006)” (van Viersen et al., 2016, p. 191).
<i>gifted/learning disabled (G/LD)</i>	<ul style="list-style-type: none"> • “a student of superior intellectual ability who demonstrates a significant discrepancy between their level of performance in a particular academic area and their expected level of performance based on their intellectual ability” (Krochak and Ryan, 2007, pp. 45-46).
<i>learning disabled (LD)</i>	<ul style="list-style-type: none"> • “Includes reference to a disorder in one or more of the basic psychological processes [...] and low achievement in one or more academic areas” (Crepeau-Hobson and Bianco, 2011, p. 103). • “Refers to a number of disorders which may affect the acquisition, organization, retention, understanding or use of verbal or nonverbal information [...] and requires that, [a] learning disorder [be] evident in both academic and social situations” (Krochak and Ryan, 2007, p. 45). • “LD diagnosis is made after the student fails to respond to multiple interventions” (Lovett and Sparks, 2011, p. 305).
<i>Response-to-Intervention (RTI)</i>	<ul style="list-style-type: none"> • “A systematic problem-solving process within a coordinated system of early intervention services designed to facilitate early recognition of students’ difficulties to provide for a data-based method for evaluating the effectiveness of the instructional approaches used” (Crepeau-Hobson and Bianco, 2011, pp. 103-104) • An approach “in which students are provided increasingly intense and individualized instructional interventions in a given subject area and an LD diagnosis is made after the student fails to respond to multiple interventions (Gresham, 2002)” (Lovett and Sparks, 2011, p. 305). • An approach that “[r]elies on systematic problem identification and treatment of a student’s academic deficits, based on assessment of all students early in the school year, continuous assessment of those considered at risk, and research-based interventions delivered to these at-risk students” (McCallum et al., 2013, p. 211). • An approach in which “[e]ach tier incorporates the delivery of research-validated instruction and the determination of each student’s degree of responsiveness based on assessment measures that will be described in the next section. Three tiers are common to all RTI models” (McKenzie, 2010, p. 162).
<i>Section 504, 504 plan, 504</i>	<ul style="list-style-type: none"> • “A federal law designed to protect the rights of individuals with disabilities in programs and activities that receive Federal financial assistance from the U.S. Department of Education [...] The Section 504 regulations require a school district to provide a ‘free appropriate public education’ (FAPE) to each qualified student with a disability who is in the school district’s jurisdiction, regardless of the nature or severity of the disability. Under Section 504, FAPE consists of the provision of regular or special education and related aids and services designed to meet the student’s individual educational needs as adequately as the needs of nondisabled students are met” (USDE, 2018).
<i>specific learning disability (SLD)</i>	<ul style="list-style-type: none"> • “the discrepancy between a student’s intelligence and achievement” (McKenzie, 2010, p. 161). • “a disorder in 1 or more of the basic psychological processes involved in understanding or in using language, spoken or written, which disorder may manifest itself in the imperfect ability to listen, think, speak, read, write, spell, or do mathematical calculations” (IDEA, 2004).
<i>twice exceptional (2e), twice-exceptional, twice-exceptionality, twice exceptional students</i>	<ul style="list-style-type: none"> • “‘Those who possess an outstanding gift or talent and are capable of high performance, but also have an LD that makes some aspect of academic achievement difficult’ (Brody and Mills, 1997)” (Crepeau-Hobson and Bianco, 2011, p. 103). • “Students who have high ability and any kind of learning difficulty” (Dare and Nowicki, 2015, p. 208). • “Students who are both intellectually gifted (as determined by an accepted standardized assessment) and learning disabled, which includes students with dyslexia” (IDA, 2019). • “giftedness as measured by high cognitive abilities or strong distinctive abilities/talents, existing alongside processing or other disabilities, which moderates/limits expression of the high abilities” (McCallum et al., 2013, p. 209). • “‘students of superior intellectual ability who exhibit a significant discrepancy in their level of performance in a particular academic area’ (McCoach et al., 2001)” (van Viersen et al., 2016, pp. 189-190). • “The following three characteristics [are] indicators of the twice-exceptional student: (a) evidence of an outstanding talent or ability, (b) evidence of a discrepancy between expected and actual achievement, and (c) evidence of a processing deficit (Mills and Brody, 1999)” (Morrison and Rizza, 2007, p. 58). • “Simultaneously possess attributes of giftedness as well as learning, physical, social/emotional, or behavioral deficits” (NEA, 2006). • “Gifted and identified with a disability” (Rizza and Morrison, 2007, p. 2).

accommodation and is estimated to account for less than 5 percent of the general student population” (p. 162). It is during tier 3 when students are generally screened for special education and the process of developing a necessary Individual Education Plan (IEP) begins. Though RTI has proved itself successful in identifying students with disabilities, many professionals and researchers believe RTI alone has not proven as successful in identifying gifted students with disabilities. The argument is that RTI only works with this subpopulation when it is coupled with other formal and informal assessments – a multi-faceted approach. One of the major issues stressed in the literature is that gifted children with LD are less likely to

be referred for an RTI program, and much less for special education screening, because of their tendency to “demonstrate higher academic potential than their average-ability peers” (Brody and Mills, 1997, in Crepeau-Hobson and Bianco, 2011). Moreover, as RTI begins to assume a more prominent role in determining SLD eligibility, it is incumbent on professionals to compare this identification model’s strengths and weaknesses in identifying 2e students with the strengths and weaknesses from more traditional, discrepancy-based approaches (McKenzie, 2010). This, of course, does not take away from the positive and powerful impact that RTI has in helping students who struggle; however, it is important

Table 2. Audit Trail of Database Search from 2004 through May 2019

Database	Search Terms	Sources Located	Relevant Sources	Author and Year
ERIC EBSCO Search 1	“dyslexia” AND “gifted and talented students” AND “identification”	0	0	N/A
ERIC EBSCO Search 2	“reading disabilities” AND “gifted students” AND “identification”	1	1	McCallum et al. (2013) ⁵
ERIC EBSCO Search 3	“learning disabilities” AND “gifted students” AND “identification”	15	6	Crepeau-Hobson and Bianco (2011) ¹ Krochak and Ryan (2007) ³ Lovett and Sparks (2011) ⁴ McCallum et al. (2013) ⁵ McKenzie (2010) ⁶ Rizza and Morrison (2007) ⁸
ERIC EBSCO Search 4	“twice exceptional students” AND “identification”	21	6	Crepeau-Hobson and Bianco (2011) ¹ Krochak and Ryan (2007) ³ McCallum et al. (2013) ⁵ Morrison and Rizza (2007) ⁷ Dare and Nowicki (2015) ² Rizza and Morrison (2007) ⁸
ERIC EBSCO Search 5	“dyslexia test”	35	1	van Viersen et al. (2016) ⁹
ERIC EBSCO Search 6	“dyslexia” AND “academically gifted”	4	1	van Viersen et al. (2016) ⁹
WorldCat Search 7	“dyslexia test” AND “academically gifted”	41	1	van Viersen et al. (2016) ⁹

Table 3. Literature Reviewed: Assessments and Screening Methods for 2e Identification

Authors and Publication Year	Detailed Methodology	Findings
Crepeau-Hobson and Bianco (2011)	<p>Method: Model of evaluation/identification integrated process to identify children who are gifted and have learning disabilities (LD) that “blends standardized assessment methods with practices consistent with RtI” (p. 102).</p> <p>Define <i>gifted and talented</i>, <i>twice-exceptional learners</i>, <i>LDs</i>, and <i>RtI</i> prior to explaining their model for identification. The authors propose a model that considers the “statutory definitions of LD and the potential contributions that cognitive processing evaluation data can provide in understanding and helping the twice-exceptional learner” (p. 105).</p> <p>Stay true to the use of RtI because of its evidence-based use towards helping struggling students.</p>	<p>The best way to identify and meet the needs of the 2e child is to “create a balance between attention to the child’s strengths and compensating for deficits” (p. 107).</p> <p>Conclude that RtI is not only useful for students with disabilities, but that if integrated with the use of screening assessments would benefit 2e students. However, the researchers would benefit from applying their integrated model.</p>
Krochak & Ryan (2007)	<p>Method: Literature Review of best methods with no specific mention of studies reviewed</p> <p>A review of the key definitions for <i>gifted</i> and <i>learning disabled</i> students is given.</p> <p>The following terms are defined and/or explained in detail: <i>learning disabled</i>, <i>gifted</i>, <i>gifted/learning disabled</i>, and <i>three types of gifted/learning disabled</i>, and <i>compensation</i>.</p>	<p>Conclude that the lack of definitive definitions and identification criteria has led to an “under-represented group in terms” of students who are G/LD (p. 51).</p> <p>Conclude “mask[ing] gifts may result in lost potential with” 2e children (p. 51).</p>
Lovett and Sparks (2011)	<p>Method: Literature Review of 46 empirical studies in a quantitative synthesis</p> <p>Keywords Searched: <i>Gifted</i> and <i>learning disabilities</i>, <i>twice exceptional</i>, and <i>dual exceptionality</i></p> <p>Databases: ERIC and PsycINFO.</p> <p>All 46 reported inclusion and classification criteria; 19 of the 46 reported mean test scores and had samples of at least 5 participants in the G/LD group (p. 306).</p> <p>Abstracts and full texts were read closely, and further exclusions were made from the original 940 results (pp. 305-306).</p>	<p>Six critical findings were made after synthesizing the studies: (a) there is not enough research literature on the topic of G/LD; (b) there is no “overarching consensus in the G/LD field as to how to identify students who should be classified as G/LD” (p. 312); (c) a problematic and questionable IQ based identification assessment to currently identify G/LD students; (d) there are no requirements of academic impairment found in the existing literature that helps in identifying G/LD; (e) there is no consensus in the required IQ cutoff for gifted identification; and (f) there was an overall lack of academic impairment in the G/LD students studied (pp. 312-313).</p>
McKenzie (2010)	<p>Method: An analysis of the currently used RtI system to identify gifted students with disabilities.</p> <p>Describes the tiers in current RtI models and offers suggestions on how to modify said RtI models with new sub tiers to help with identifying 2e students. The main argument is that RtI alone is not sensitive enough to notice subtle difficulties exhibited by gifted students with a learning disability.</p>	<p>Addresses the false negatives that occur with assessment and intervention models like RtI.</p> <p>In implementing an RtI with a combination of informal and formal assessments, the author concludes, “[w]ithin either model, teachers must, in a sense, refer these students despite what their functional performance within the classroom and test scores may otherwise suggest” (p. 166).</p> <p>Concludes, “teachers who suspect that a student may be G/LD must not automatically doubt their judgment merely because the student was determined to be R [responsive to intervention] in class-wide testing” (p. 166).</p>

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Morrison & Rizza (2007)	<p>Method: Model of identification tool for 2e students and a review of Project O2E, “a state-funded collaboration program” (p. 58).</p> <p>Provide a brief literature review of the identification processes currently used for 2e students, report on the findings of Project O2E, and give a detailed breakdown of an identification toolkit that can be “modified to meet the policy and procedures specific to individual districts and needs of the student populations therein” (p. 67).</p> <p>Participants: 3 school districts, (Central, urban; Eastern, suburban; and Western, rural)</p> <p>Method: Qualitative data – record reviews, observations, interviews, and focus-group discussions (pp. 65-66).</p>	<p>Make note of masking issues when identifying 2e students; they also discuss the benefits behind multi-faceted approaches in identifying gifted students with disabilities.</p> <p>Conclude that professional communication between gifted and special education professionals is needed to ensure smooth planning occurs to address the needs of 2e students. Moreover, there is a need for identification policy changes in adapting multi-faceted approaches.</p>
Rizza & Morrison (2007)	<p>Method: Model of identification tool for 2e students and a review of a state-funded identification program - O2E.</p>	<p>Present a detailed breakdown of 2e students and a detailed account of “a general toolkit for use in identifying students who are twice-exceptional” (p. 2).</p> <p>Two important aspects are derived from this research: (a) “knowledge acquisition” (p. 6) is vital, and (b) collaboration amongst educational personnel is necessary in the identification of 2e students (p. 7).</p>

Table 4. Literature Reviewed: Qualitative and Quantitative Studies

Authors & Publication Year	Participants	Detailed Methodology	Findings
Dare & Nowicki (2015)	<p>Participants: 5 parents, 4 moms and 1 dad, of 2e students, 2 females and 3 males, ages ranging from 11 to early 20s (p. 210) All 5 students had IEPs. Region: Canada Demographics: All adult participants were - “Caucasian, and four out of five had postsecondary degrees,” and “were working professionals or business owners,” homeowners, “and had the financial resources to seek independent [...] assessments” (pp. 209-210).</p>	<p>Obtained approval from the university’s ethics review board for this qualitative study. Recruitment was based on a two-part strategy recommended by Patton (2015). Parents who noted that they had children who were 2e were given letters detailing the study; they were asked to consent to the project.</p> <p>Qualitative Inquiry: Interviews and a phenomenological approach, “involving an informal, interactive process to elicit personal accounts” were employed (p. 210). Using a flexible approach in the interview process, interviewers took notes throughout the conversations.</p> <p>Vignettes were created from interviewees’ responses, which were “member-checked for accuracy” (Patton, 2002, as cited in Dare, 2015, p. 210). In each vignette, parents added their own details.</p>	<p>Thematic vignettes: (a) 2e awareness and identification, (b) 2e with SLD, (c) 2e with ADHD, (d) 2e with ASD, and (e) 2e with EBD.</p> <p>Reveal that there is still missing research and literature that will help in identifying 2e students. Researchers conclude that 2e students “often remain unrecognized until higher grades and identification of exceptionalities may not occur until parents seek professional help” (p. 216).</p>
McCallum et al. (2013)	<p>Participants: 3rd grade students from 8 different elementary schools in a single school district over a 3-year period Region: Southeast United States Demographics: 59% economically disadvantaged; 47% male and 53% female; 95% Euro-American</p>	<p>The school district superintendent, principals, and the university review board granted permission. There were 3 universal screeners and 8 progress monitoring probes “administered approximately biweekly throughout the school year” for 3 years in a row (p. 214).</p> <p>Quantitative Instruments: MIR:R and MIR:M probes were administered in teachers’ classrooms by teachers “trained by university faculty using a fidelity checklist,” and researchers had been given access to testing database reports (p. 214).</p>	<p>Show that the identification of 2e students is difficult “primarily because of the masking effect [...] which] may be a particular problem for schools” using multi-tiered systems to identify this population (pp. 217-218).</p>
van Viersen et al. (2016)	<p>Participants: 121 children, 33 children with dyslexia, 26 gifted children with dyslexia, 31 typically developing children, and 31 gifted children Region: Netherlands Demographics: Dutch, primary school, grades 2-4</p>	<p>Multiple instruments were employed to assess. Researchers’ had two hypotheses: (a) “gifted children with dyslexia would score about equally low on literacy skills as children dyslexia and lower than TD children, and that gifted children would outperform all groups,” and (b) “gifted children with dyslexia would score <i>higher</i> on literacy skills than children with dyslexia but lower than TD children, and that gifted children would outperform all groups” (p. 193).</p> <p>Students were tested either in a clinic or school environment. Some were tested at their home for a session lasting between 2 to 3 hours. Tests results were summarized shortly after assessments were concluded and then evaluated by “a licensed school psychologist. Any diagnostic uncertainties were resolved during joint evaluation meetings” (p. 193). The researchers screened the data using Bayesian statistics, which compared “all four groups on literacy skills and cognitive components” (p. 193).</p> <p>Quantitative Instruments: Intelligence: <i>Wischsler Intelligence Scale for Children III-NL</i> Literacy: <i>Eén-miut-test, Klepel, AVI, PI-dictee</i> Phonology: <i>FonemischeAnalyse Test, ContinuBenoemen&WoordenLezen, Automated Working Memory Assessment</i> Working Memory: subtests of AWMA Language: <i>Clinical Evaluation of Language Fundamentals-4-NL</i></p>	<p>Show an acceptable hypothesis that “gifted children with dyslexia would show higher reading and spelling performance overall than the children with dyslexia, but lower performance than TD children and considerably lower than gifted children” (p. 195).</p> <p>Also confirm, “gifted children with dyslexia have a specific cognitive profile of dyslexia-related weaknesses (core-deficit model) and giftedness-related strengths (compensational model) that may provide possibilities for compensation of underlying deficits” (p. 195).</p>

that researchers look for ways to strengthen the multi-tiered system already in use. In the literature, there are suggestions for adding a second step or sub-tier to tier 2, or even a tier 4. Crepeau-Hobson and Bianco (2011) argue that professionals add a “screening for any pattern of declining achievement via

record review” (p. 106). In the 4-tier model, a division is made in tier 2 where prescribed, small-group instruction is provided and slowly, a more “intensive individualized instruction” is given within a regular classroom setting (Reschly, 2005, in McKenzie, 2010).

In other words, it is not quite the intensive instruction one would envision in a special education setting, but it is more closely linked to it rather than the small-group instruction that takes place in a regular classroom. One solution to the identification gaps produced by RtI systems is to give a “full evaluation, including intelligence testing, using an absolute standard” (McKenzie, 2010, p. 165) which will help identify gifted students struggling with the symptoms of their disability; this can occur during one of the already developed tiers. Other researchers (see Table 3) concur with McKenzie (2010) that additional assessments, both informal and formal are necessary to identify gifted students with learning disabilities. Krochak and Ryan (2007) call for a multi-faceted approach in the identification process. They explain that a multi-faceted approach would help identify 2e students because it would focus on the following: “(a) evidence of an outstanding talent or ability, (b) evidence of a discrepancy between expected and actual achievement, and (c) evidence of a processing deficit” (Brody and Mills, 1997, in Krochak and Ryan, 2007). Therefore, as RtI helps identify students struggling primarily because of a disability, a multi-faceted approach within an RtI system would help identify gifted students with learning disabilities who would otherwise fall below the radar in a traditional intervention and assessment program. Morrison and Rizzo (2007) add to the argument that “[u]sing multiple criteria for identification will provide support when the case is being made to cross-list students in both gifted and special education programs” (p. 61). Providing 2e students with the appropriate services and interventions will only happen when the educational professionals making the decisions for 2e students are provided with authentic and necessary information. Holistic evaluation systems would help in closing gaps in the identification process and, ultimately, in addressing the needs of this underserved population. Another suggestion that seems feasible and impactful within an RtI system is that of a portfolio in which a collection of “input from parents and teachers, and creativity tests in addition to the use of IQ and achievement tests [...] can provide more insight into the student’s development thought processes and uniqueness” (Vaidya, 1990, in Krochak and Ryan, 2007). Parental insight and notes on the characteristics and behaviors of 2e children would give teachers and professionals a point of view that is not typically evident in a classroom or school setting.

This method proved beyond helpful in identifying 2e students in Dare and Nowicki’s (2015) study on 2e identification through parents’ perspectives. The insight that parents bring from home is crucial; they “play important roles in identifying and supporting twice-exceptional students” (p. 209). Along with informal and formal assessments, diagnosticians can rely on the experiences and understandings brought forth by adults who are closest to the child. Creating a data bank from a variety of sources must be “considered for the twice-exceptional and should include the use of traditional [...] and nontraditional methods of identification that include questionnaires, self-concept scales, talent checklists, and interviews of adults directly associated with [the] student being assessed” (Coleman, 2003, in Morrison and Rizzo, 2011, p. 61). Thus, creating and implementing multi-faceted identification approaches that provide diagnosticians and educational psychologists with an array of information within an already well-established multi-tier system, like RtI, will help educators and professionals identify and provide support for gifted students struggling to reach their academic potential.

The Questionable Validity in Current Identification Assessments: Not many professionals can argue against RtI systems working to identify students with disabilities, with one main caveat to keep in mind – the systems take too much time to identify and provide appropriate interventions for students with special needs as they filter through the necessary tiers at indeterminate times. Some might argue that this already cumbersome system of identifying struggling students with disabilities would only become much more daunting if further work and more tiers are added to identify 2e students. One must imagine the difficulties that appear when using these tiered systems when identifying GT students with a disability. It is important to note that the “[a]wareness of the unique educational needs of GT students who also have a disability has increased considerably in recent years (Morrison and Rizza, 2007, in McKenzie, 2010). Thus, the issue of identifying these students has increased as well. If RtI was created to identify struggling students with learning disabilities, how does it help identify gifted students who mask or compensate for their disabilities? This is the leading argument for many researchers and education professionals. Researchers note that “[a]ccording to federal guidelines (Individuals with Disabilities Act Amendments, 2004), school systems can use one of three models to identify SLD: the aptitude–achievement discrepancy model, an RtI model, or a third scientifically validated model” (McCallum *et al.*, 2013). The issue is that no matter which model school systems use, it is up to the school system to implement the model as they see fit. This issue makes one question the validity of the methods in current 2e identification assessments, especially those based on identifying giftedness by an intelligence quotient (IQ). Within the literature (refer to Table 3), researchers claim that issues with using IQ testing to identify 2e students lie within the results of above-average individuals whose struggles are not initially apparent in assessment results. Morrison and Rizzo (2007) argue that though “intelligence tests can provide the practitioner with valuable information, its value needs to be viewed as limited for the twice-exceptional student” because “[a]verage achievement may not constitute a problem for most students, but, for [2e students] who have the potential to score significantly higher, the problem should be clear” (p. 60). In other words, IQ tests might not notice the area[s] of struggle for a gifted student with a disability. The child’s own giftedness might keep them from falling two standard deviations below, which would thus keep gifted coordinators and diagnosticians from providing them the much-needed special education services.

Studies within the literature show attempts at finding even more ways in identifying 2e students. The researchers conclude: (a) some identification tools and assessments are not sensitive enough to weed through a 2e’s masking and compensation skills, (b) screenings might appear to be one-dimensional as far as the amount of data and the point of view that it shows, and (c) how most screening assessments were created as a “one-size fits all” when dealing with disabilities. Morrison and Rizzo (2007) claim, “that traditional use of standardized tests is not sensitive enough to measure nuances inherent in a proper identification” (p. 72). More so, in a quantitative study conducted by McCallum, Bell, Coles, Miller, Hopkins, and Hilton-Prillhart (2013), researchers concluded that screening assessments are insensitive to the discrepancies found in gifted students with disabilities. The fact that it is so difficult to distinguish a gifted student struggling because of a lack of educational resources or that of

Table 5. Strengths and Gaps/Weaknesses in the Literature

Authors & Publication Year	Strengths	Gaps/Weaknesses
Crepeau-Hobson & Bianco (2011)	<p>RtI is presently noted as the leading method to identify 2e students; however, the authors point out that RtI is not necessarily the best method at identifying 2e learners because of the students' abilities to <i>mask</i> their abilities or disabilities and a lack of knowledge when it comes to using the method correctly.</p> <p>The key in identifying 2e students is to use an integrative method - RtI effectively combined with standardized assessments - and this can only be done with a true understanding of the system through thorough training.</p>	<p>State that their integrative approach, a combination of RtI and assessments, is the best method in identifying 2e students, yet there is little to no mention of specific disabilities or giftedness, and results of the application of the method are not given.</p> <p>Explain the integrative approach but do not show application with a subpopulation, leaving readers to question: Is this method limited to students diagnosed with high incidence disabilities or is it applicable to students with low incidence disabilities as well? Will this method apply to students 2 standard deviations above the mean, or below the mean? Or is it only applicable to students that find themselves borderline between the two?</p>
Dare & Nowicki (2015)	<p>Bring an awareness to the power of parents when it comes to identifying their 2e children.</p> <p>Identify a problem that plagues the identification process of most 2e students – <i>masking</i>.</p> <p>Provide a unique, and somewhat unheard, parent perspective; it is beneficial to hear the struggles and victories that parents face and experience during the process their child goes through when being identified as 2e.</p>	<p>Participants were “Caucasian and four out of five had postsecondary degrees” (p. 209). Parents in this study were educated, and most of them turned to private testing and screening to help identify their child, which is not necessarily an option for individuals lacking the same financial/educational opportunities. The study focused on a specific and small sample of parents of children with varying disabilities and gifts. Authors leave many questions unanswered about identifying 2e students.</p> <p>Considering different populations based on race and economic status would help in expanding their findings on the identification of 2e students.</p>
Krochak & Ryan (2007)	<p>Highlight a major issue in the identification of 2e students. A correlation between a lack of consensus between definitions and actual identification criteria has led to an underrepresentation of this subpopulation.</p> <p>Emphasize the issue of using specific screening and identification assessments tested reliable for a specific population and using them to identify “any” 2e student. It is necessary to rely on a combination of assessments and screenings to help identify this group. The authors support this notion with the research they reviewed.</p> <p>Indicate possible issues concerning a popular screening assessment when identifying 2e students. They make note that the most recent version of the WISC has the most promise in identifying this subpopulation.</p> <p>Note and provide examples of an important factor in the misidentification, or lack thereof, of 2e students lies in a student's unconscious/conscious ability to mask or compensate for their disabilities or gifts.</p>	<p>Gaps in their own review lead to unanswered questions, the biggest being that of masking and compensating of gifts and disabilities and the specific effects on screening assessments. The authors show that the most recent version of the WISC-IV was sampled on mixed groups of 2e students; however, the authors note that there was no literature on the use of the assessment on gifted/learning disabled students – which is key. This emphasizes the issue of not identifying 2e students and providing them the much-needed intervention to succeed and/or to learn.</p> <p>The review is from 2007, so updates that have occurred in the screenings or assessments for 2e students are obviously not mentioned.</p> <p>An audit trail and specific methodology is not provided. This would help readers identify and understand findings or help researchers address the gaps in the literature.</p>
Lovett & Sparks (2011)	<p>Make 4 recommendations to help with the identification of 2e students; one recommendation closely adheres to the main issue they found in the literature. Not only do they review the literature, the authors take time to provide suggestions on how to better identify and serve 2e students.</p> <p>Balance their findings between gifted and learning disability identification and find the main issues within the literature concerning both.</p> <p>Give an organized table detailing their sources.</p>	<p>The authors do a compelling job in synthesizing the studies and findings of 46 empirical studies. However, there was little to no mention of specific disabilities or gifts studied in the literature. This leaves readers to group all 2e students and the processes it takes to identify them together.</p> <p>Focus their review on the identification of 2e students based on IQ—no longer preferred in the field of Special Education, particularly because of the controversy behind its ability to identify the disabilities/giftedness of a child.</p>
McCallum et al. (2013)	<p>Stress the importance and significance behind consistency in terminology, which is a prevalent theme within the literature in this review.</p> <p>Provide detailed information about the instruments used in their study to show their reliability and validity. Expand on Lovett and Sparks (2011) findings that there is no consensus in assessments to identify 2e students.</p> <p>Suggest that RtI continue to be used to identify students struggling in mathematics and reading, but also suggest that further screening be implemented, which helps filter through the discrepancies found in 2e students' screening results.</p>	<p>The assessment was administered on a sampling of 95% Euro-American third graders following a three-year study. Samplings in non-Euro-American groups would help answer whether the proposed assessment model would benefit students from culturally and ethnically diversified backgrounds.</p> <p>Provide study results for students struggling in reading and math; do not mention specific learning disabilities, once again, leading readers to generalize about LDs.</p>
McKenzie (2010)	<p>Gives a detailed explanation of RtI and its implementation and use in identifying students with LDs. Discusses the different tiers and gives suggestions on how to add a fourth to help identify gifted students with LDs.</p> <p>Discusses how RtI models throughout the country have led to a range of screening instruments and criteria that give varying results for students' responsiveness (R) and/or non-responsiveness (NR) (p. 162) to interventions set in place. He brings awareness about allowing discrepancy methods and markers to identify 2e students.</p>	<p>Shows how RtI models currently used lack consistency and are not sensitive enough to distinguish between 2e students and students with disabilities. The author published in 2010; an update in current RtI practices and models, along with an analysis of current definitions would be helpful.</p> <p>Provides a detailed explanation and theory on why current RtI models produce false positives in the identification of 2e students, but it would be beneficial to include results from studies that have implemented the tier 4 suggestions.</p>

.....Continue

Morrison & Rizza (2017)	Provide a brief literature review that emphasizes the use of a multi-faceted approach in identifying 2e students. They also advocate for consistency in the way school districts identify this subpopulation. Suggest 5 key factors in developing a plan for identifying 2e students: (a) prescribed training for teachers, (b) inclusions of the appropriate teachers in decision-making committees, (c) a committee specifically for 2e decision-making, (d) flexibility in screening assessments for identification, and (e) the implementation of a multi-faceted approach with data from informal and formal assessments (pp. 63-64). After analyzing the identification process of 2e students along with the best practices used throughout three districts, the authors recommend and discuss a toolkit with four categories: (a) Prereferral and Screening, (b) Preliminary Intervention, (c) Evaluation Procedures, and (d) Educational Planning (p. 67).	Though authors reviewed Project O2E to identify the best ways to identify 2e students, and introduced a toolkit to help do so, an implementation study of their proposed toolkit would be beneficial. Propose a toolkit for the identification of 2e students; however, little data is given on targeted disabilities or gifts that will benefit from this toolkit. Though authors stress the implementation of said toolkit in increasing the number of 2e students properly identified, there is a sense of disability and giftedness generalization.
Rizza & Morrison (2007)	The toolkit described in the literature is a collaborative work between researchers and educational professionals. This collaborative effort will prove indispensable concerning addressing issues that are seen in the classroom, and not just addressing theory. Emphasize the <i>individual</i> needs of the 2e student, which at times is overlooked in the literature. Though specific disabilities/gifts are not mentioned in the literature, the authors bring awareness to the importance of looking at each child as a unique case. Address the need for educators and school psychologists to keep portfolios of 2e students to help in the identification process; though portfolios are a far from recent assessment strategy, it is rarely mentioned in current literature.	A major gap in this literature was the lack of actual evidence in the toolkit's reliability and validity on the subpopulation. Though the identification toolkit and its implementation are nicely detailed, the authors do not share any results of its application. In understanding that their research presents a model, it would be helpful to see the toolkit in action; they make an acknowledgement of the funding for their work from the Ohio Department of Education, there is no mention of an implementation of their toolkit.
van Viersen et al. (2016)	Explain <i>dyslexia</i> and how it affects learning for gifted students. They make note that dyslexia and giftedness can coincide. Explain their study of four sets of students given a battery assessing five learning domains. A variety of assessments used to screen intelligence, literacy, phonology, working memory, and language gives a broader view of how gifted children with dyslexia learn compared to students with dyslexia and typical learners.	Because gifted students mask or compensate for the issues brought on by dyslexia, students who do not exhibit obvious or severe characteristics were not included in the study; thus, a closer look at gifted students with less severe dyslexic characteristics is necessary.

content compared to a gifted student struggling because of a disability is what brings to question the validity of many identification assessments. Though the authors give details about the instruments used in their study to show their reliability and validity, McCallum et al. (2013) expand on Lovett and Sparks (2011) review findings that there is no consensus in assessments to identify 2e students. This leads professionals to wonder whether the tools and assessments they employ in screening for 2e students are truly valid – do the systems in place really measure what they should measure, and for whom they should measure?

Masking/Compensating Effects on Identification: With this said, a breakdown of the types of 2e students and the difficulty that comes with identifying them is stressed by both the National Education Association (NEA) (2006) and the International Dyslexia Association (IDA) (2019). There are three types of 2e students: the first type of 2e student is one who is “formally identified as gifted but not having an identified disability giftedness masks disability”; the second, “formally identified as having a disability but not gifted disability masks giftedness”; and the third, “[n]ot formally identified as gifted or disabled components mask one another giftedness and the disability not readily apparent” (Baum, 1990, in NEA, 2006). IDA (2019) states that “[d]yslexia may mask giftedness, and giftedness may mask dyslexia” (pp. 1-2). The irony behind it all is that a 2e student’s own gift(s) is what likely keeps professionals from referring that child for RtI services, even more so for special education screening. Throughout the literature, authors mention the terms *masking* and *compensating* when discussing the characteristics of 2e students. The ability of a gifted child to create skills to compensate for the symptoms of their disability, most specifically for a learning disability like dyslexia, is quite remarkable. Unfortunately,

it is because of their ability to compensate, allowing their gifts to mask their disability, that many students are diagnosed late in their elementary worse, not at all. Crepeau-Hobson and Bianco’s (2011) work adds to the notion of masking and ties in the issues previously mentioned with RtI and validity of current screening assessments. They write that “[b]ecause a student’s superior intellectual abilities may mask his or her LDs, and vice versa, twice-exceptional students appear to have average abilities and achievement” (p. 104). The authors also agree “gifted students with learning disabilities (GLD) often use their intellectual abilities to *compensate for problematic weaknesses*” (Baum and Owen, 2004, in Dare and Nowicki, 2015). As much as parents and educators applaud 2e students rising above the limitations and barriers of their disability, masking besets the work of diagnosticians and education professionals. Children who mask their disability, whether subconsciously or consciously, might be setting themselves up for difficulties or even failure in the future when the much more complicated world of high school and college comes around. In most of the literature in this review (see Table 4), authors make mention of 2e students’ abilities to mask their disability. As previously discussed, there are findings and conclusions made that detail just how extraordinary it is for a child to subconsciously, or even consciously, create coping mechanisms that allow them to seemingly bypass or overcome their weaknesses (Krochak and Ryan, 2007). However, this same extraordinary skill makes identifying 2e students taxing for researchers attempting to find a solution. In a study regarding how gifted students tend to mask their dyslexia (see Table 4), researchers conclude that gifted students with dyslexia outdid their performances on nonverbal assessments, especially on assessments that focused on visual attention span and speeded tasks (van Viersen *et al.*, 2016).

Through a battery of assessments, researchers tested four groups of elementary-aged children to determine whether masking skills could affect the identification of 2e students using typical screening assessments. Though students with dyslexia might have a difficult time processing the written word, there is no correlation in their ability to have strong language skills – “gifted children with dyslexia might benefit even more because they can rely on virtually excellent language skills” (Nation and Snowling, 1998; Snowling, 2008, in van Viersen *et al.*, 2016). Unfortunately, many people believe dyslexia to be only inconvenient reading and spelling issues that keep students from achieving in academics. However, it is essential to note that students with dyslexia, especially gifted students, are not incapable of learning language skills because they have difficulty with what is written in a textbook or on a whiteboard. On the contrary, they are more than capable of learning language skills, and even of outperforming a typically developed, or intellectually average child. Researchers conclude that the “masking of literacy difficulties can cause dyslexia to remain undetected in gifted children for a protracted time, despite achievement being lower than anticipated on the basis of the intellectual capacities of the child” (van Viersen *et al.*, 2016). In their study, the researchers show that gifted students with disabilities, particularly those with dyslexia, are usually not identified because of skills that help the children compensate for their weaknesses; moreover, through their work, the researchers push for a better understanding of how to identify and serve a population that cannot be bundled as an entity. The researchers emphasize how further studies could be conducted to include gifted students with varying levels of dyslexia. They noted that their research did not include students whose dyslexia was not as apparent as others were, or as they termed “borderline” (van Viersen *et al.*, 2016). In other words, dyslexia has different levels which means that professionals cannot generalize gifted students with dyslexia, just like professionals cannot generalize gifted students, assuming that all gifts are equal. Sadly enough, this is the case as mentioned or inferred by many of the researchers in this literature review.

The Overall Generalization of Disabilities/Gifts: The generalization of all disabilities and, most specially, all specific learning disabilities, also leads to issues in identifying 2e students. There is constant mention throughout the literature that screening tools and assessments do not target the students who need to be identified. Lovett and Sparks (2011) conclude in their literature review of 46 empirical studies (refer to Table 4) that in a majority of studies, the validity of measurement is questionable because of norms used in the studies. They argue that “[i]n addition to wide variability in the criteria used for classification of G/LD [...the researchers] attribute this relatively low performance to the ‘either-or’ inclusionary criteria used by many studies, in which *any* composite IQ above a certain cutoff would qualify a student as gifted” (Lovett and Sparks, 2011, p. 312). Thus, Lovett and Sparks conclude that this “inclusionary criterion capitalizes on measurement error, allowing unrepresentative scores to classify students” (p. 312). In other words, we cannot rely on a number, as significant as that number might be, to categorize giftedness into an easy-to-handle bundle. Nor can we rely on the assumption that students who fall two standard deviations above the mean all exhibit the same gift, or those that fall two standard deviations below the mean all struggle with the same disability. With this said, a 2e student could not be fairly compared, thus identified, and much less serviced, like any

other 2e student. Morisson and Rizza (2007) argue, “[t]wice-exceptional students should be afforded the same consideration as a gifted student, and their progress should be compared to their potential” (p. 67). In like manner, Lovett and Sparks (2011) notably state, “Since the definitions of giftedness and LD each show such range, it is a very real concern that the G/LD category may be too heterogeneous to allow generalizations” (p. 305). Giftedness is unique, and so are disabilities. Not every student with dyslexia struggles with the same symptoms, just as gifted students do not shine the same way; it is absurd to prescribe a one-size-fits-all identification assessment for 2e students. In identifying disabilities in gifted students, one must not look at the struggles *defined* by the disability, but whether that struggling gifted child is not fully reaching his/her potential.

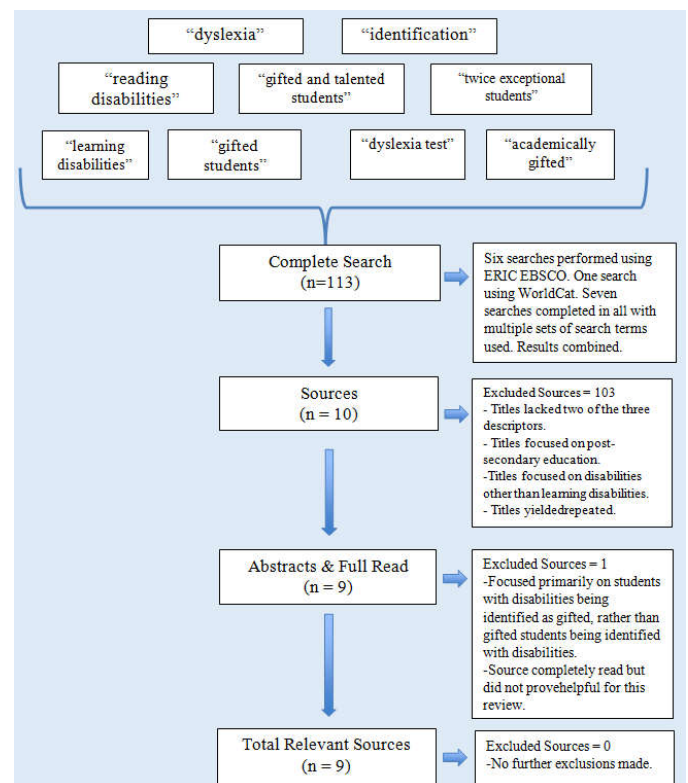


Figure 1. Audit Trail and Search Methodology

In looking at one qualitative and two quantitative studies (refer to Table 4) the emerging theme of the overall generalization of disabilities and gifts becomes apparent in two ways: (a) as seen in researchers’ chosen norms, and (b) through the authors’ own findings and conclusions. Dare and Nowicki (2015) include a brief, yet notable, explanation on how the generalization of giftedness based on IQ tests has changed throughout the decades; moreover, they note that there are still many that do not see or understand that there is diversity within this population which leads to issues in identifying 2e students. First, they explain the Terman myth, and how it “was based on the notion of intelligence as a single, global construct,” and they discuss the increasing “awareness about diversity among highly able students and recognition of twice-exceptionality” because of “Gardner’s (1983) theory of multiple intelligences” (Dare and Nowicki, p. 210). Within their research, Dare and Nowicki show the parental perspectives of identifying their 2e students. Their study focuses on five gifted students and four disabilities: (a) specific learning disability (SLD), (b) ADHD, (c) autism spectrum disorder (ASD), and (d) emotional/behavioral disability (EBD). Though some might argue that

their study focuses on a small and specific population of students, it is imperative that researchers see the overall purpose and significance behind Dare and Nowicki's study. The fact that they study these specific disabilities shows just how wide the spectrum is when it comes to disabilities affecting how a student learns, even if that student has gifts. It is necessary for researchers to take a closer look at disabilities and how they affect a child's learning ability. A disability as broad as SLD, which encompasses everything from issues in writing, mathematics, and reading can only be addressed if researchers understand and accept the major differences within it, and much more so, the differences between disabilities.

DISCUSSION/CONCLUSION

Limitations and Lingering Issues: Three major gaps stand out the most. The first deals with the norms/populations that take part in the studies. The second gap is that of out-of-date information. The third gap is the lack of information provided by researchers. Though most researchers (see Table 5) provide readers with detailed methodology and participants sections, there are some that give minimal information about how they conducted their studies, and who was chosen to participate in the said studies. With this review, the author shows that there is not much research about the identification of 2e students, specifically those struggling with learning disabilities, and even less so for students with dyslexia; however, the literature that does exist brings to the table a wealth of knowledge and a drive to continue searching for answers. Thanks to the literature put forth by these researchers, more can be done to address lingering issues. Primarily, more research is needed for the gifted students with dyslexia as far as finding an appropriate way to identify them, thereby giving these students a chance to learn at their highest potential. Secondly, more quantitative studies need to be done on the use of multi-faceted assessment approaches to identify 2e students with reading disabilities. More specifically, assessments of the use of RtI, coupled with other informal and formal assessments to screen for 2e students is necessary to prove whether these multi-faceted approaches are effective. McKenzie (2010) brilliantly argues that "[t]he challenges to discrepancy-based measurement by many RtI advocates are a natural and predictable outgrowth of a definition that contains a concept psychological processes that lacks identifiable paths toward its measurement" (p. 165). Just like everything in this world advances and grows, we as professionals need to continue searching for new ways to understand the psychological processes for giftedness and disability and how they interplay with each other. Furthermore, a look at which combination(s) of RtI and formal and informal assessments is the most effective and efficient in identifying this subpopulation. Ultimately, one of the biggest issues that keep gifted students with reading disabilities from being identified are the gifts that make them exceptional to begin with. Researchers need to address the issue of masking and compensation for struggling gifted students. Sadly, their remarkable abilities to compensate for their disability throughout their elementary years, and for some, even throughout middle and high school years, could be academically detrimental because late-identified or unidentified 2e students decide to pursue studies at the college level, where the type of text and the amount of reading is much more rigorous.

Concluding Thoughts: Although awareness and understanding of the diversity of both giftedness and learning

disabilities is increasing in the world of education, much more needs to be done to help students who fall between the cracks. We go back once more to the proud and happy parents ushering their child, for the first time, through the doors of their neighborhood elementary school. We see parents with hopes and aspirations, and utter trust in the professionals that they leave their child with for most of the day. We see innocent children – some with gifts and some with disabilities – thirsting to learn. It is our job as researchers, educators, and policymakers to find ways to help, not only those that are *easy* to identify, but to fight and give a voice to those whose disabilities are masked by the uniqueness and superiority of their giftedness. Twice exceptional students need help too; yes, they are gifted, and for many, giftedness alone might assure success. However, if a child is not living up to their fullest academic potential, then we are erring as a society if more is not done to find efficient and effective ways to identify this subpopulation and provide them with the equitable education they deserve.

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