

THE CHALLENGE OF IDENTIFYING GIFTED/LEARNING DISABLED STUDENTS**Linda A. Krochak***Campus Alberta***Thomas G. Ryan***Nipissing University*

The following contemporary review illuminates several of the best methods to accurately identify gifted/learning disabled (GLD) students? Explanations which clearly define what it means to be gifted, learning disabled (LD) and gifted/learning disabled (GLD) are included and incorporated into a typology of three identities of GLD students. Recommended and currently utilized methods of GLD identification and assessment are detailed and various controversies surrounding these modes are explored. Current voids within the GLD research are described and present approaches and programming for GLD students is distilled. The future for this twice exceptional student is proposed and critical understandings are realized.

The identification of gifted/learning disabled (GLD) students is not a straightforward process. A student with two exceptionalities is often described as twice exceptional and these students have been noted throughout our history. Many of these GLD people have made significant contributions to our society. For instance, Goldstein (2001) reminds us that,

Despite Einstein's brilliance in visual and spatial reasoning and problem-solving, researcher Bernard M. Patten wrote, as a schoolboy he had behavioral problems, was a rotten speller, and had trouble expressing himself. His report cards were dismal. (p.1)

It is these traits that are often linked to the twice exceptional or GLD person. The gifted/learning disabled have been identified as a unique group of individuals with unique educational needs for three decades (Brody & Mills, 1997) however; identification and programming strategies have remained elusive for this particular group of students. To achieve, these students require remediation in their areas of need or disability while at the same time they require opportunities to enhance their strengths in their areas of giftedness (Beckley, 1998). Gifted/learning disabled students are also students at risk. Baum (1990) has previously explained that school *comes easily* for these students yet they are often unprepared for the challenges their disabilities create when they are presented with higher-level tasks as they progress in school. This ability/disability can produce, among many possible emotions and behaviours, frustration, anger, depression, carelessness, off-task behaviour, and classroom disruption. These students may also suffer from low self-esteem and Waldron, Saphir & Rosenblum (1987) point out that these students can feel they are a disappointment to their teachers and parents and tend to focus on what they cannot do, rather on what they can do.

In order to receive appropriate academic support, programming, and in some cases funding, most provinces require the accurate identification of academically gifted/disabled students (Alberta Education, 2006b; People for Education, 2004). Students must meet the specific criteria for special education codes/labels. While provinces such as Alberta and Ontario state the necessity of individualized and specialized assessments, they do not indicate the specific assessments to be used (2006b; Ontario Ministry of Education, 2004). Educators are responsible for the selection of screening and assessment tools which is not a straightforward task since these students possess two seemingly opposite special education identities, and programming becomes complicated and tenuous (Vaidya, 1993).

Brody and Mills (1997) stress the need for accurate identification by pointing out that most students who are gifted and learning disabled do not get referred for special education services. While some qualify on the basis of their disability and some qualify because of their gifts, most gifted students with learning disabilities are not identified. Ferri, Gregg and Heggoy (1997) found that 47% of the

gifted/learning disabled students they studied were not identified until college. Gifted students are often able to compensate for their disabilities and so are not identified however, because of their disabilities; gifted students may not demonstrate the high achievement often looked for in order to identify giftedness. Brody and Mills (1997) content, that unless *operational definitions and identification criteria are modified to accommodate the characteristics of this subgroup, this situation will, unfortunately continue* (p. 285).

Definitions

Learning Disabled

A clear definition of terms is critical to determine how gifted/disabled students are best identified. For the purposes of this discussion, disabled will include specifically the category of *learning disabled*, as defined by Alberta Education and the Ontario Ministry of Education. Alberta Education has adapted the Learning Disabilities Association of Canada's definition of a learning disability (Alberta Education, 2006b). According to this definition, learning disabilities:

refer to a number of disorders which may affect the acquisition, organization, retention, understanding or use of verbal or nonverbal information. These disorders affect learning in individuals who otherwise demonstrate at least average abilities essential for thinking and/or reasoning. As such, learning disabilities are distinct from global intellectual deficiency. Learning disabilities result from impairments in one or more processes related to perceiving, thinking, remembering or learning. . . . These disorders are not due primarily to hearing and/or vision problems, socio-economic factors, cultural or linguistic differences, lack of motivation or ineffective teaching. (Alberta Education, 2006b, p. 3)

In addition the Ontario Ministry of Education (2002) requires that,

A learning disorder [be] evident in both academic and social situations . . . [and] involves one or more of the processes necessary for the proper use of spoken language or the symbols of communication, and is characterized by a condition that

a) *is not primarily the result of:*

- *impairment of vision;*
- *impairment of hearing;*
- *physical disability;*
- *developmental disability;*
- *primary emotional disturbance;*
- *cultural difference; and*

b) *results in a significant discrepancy between academic achievement and assessed intellectual ability, with deficits in one or more of the following:*

- *receptive language (listening, reading);*
- *language processing (thinking, conceptualizing, integrating);*
- *expressive language (talking, spelling, writing);*
- *mathematical computations.*

c) *may be associated with one or more conditions diagnosed as:*

- *a perceptual handicap;*
- *a brain injury;*
- *minimal brain dysfunction;*
- *dyslexia;*
- *developmental aphasia (p. 67).*

The overlap in provincial definitions is evident however; there are unique contrasts. Once the definitions are compared we need to look at the next series of definitions which address another term, label or category, namely giftedness.

Gifted

Alberta Education is less specific in providing a definition for gifted and talented, indicating only that students must meet both Alberta Education's criteria, as well as the specific school jurisdictions criteria (Alberta Education, 2006a). Alberta Education (2006b) criteria refers to giftedness 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*
- *kinesthetic* (p. 5).

Exactly how to measure this is not indicated however the need to focus on the exceptional potential and/or performance in general intellectual and specific academic abilities is clear. The Ontario Ministry of Education (2002) suggests a gifted student have, *an unusually advanced degree of general intellectual ability that requires differentiated learning experiences of a depth and breadth beyond those normally provided in the regular school program to satisfy the level of educational potential indicated* (p.44). The Learning Disabilities Association of Ontario (LDAO) points out that,

The selection process for gifted placement varies in different jurisdictions but certain similarities do emerge. Prospective candidates go through procedures that can include intelligence, achievement, and occasionally creative testing programs. There are also a series of nomination protocols which may come from the student's parents, teachers, and possibly from the student herself. Gifted students, despite their impressive intellectual attributes, have every bit of school life to contend with as other children and, while they excel in many areas, their struggles may require their own special needs attention. (p.1)

Gifted/Learning Disabled

Combining the definitions for gifted and learning disabled results in the following definition for gifted/disabled that will be used for the remainder of this discussion. A gifted/learning disabled (GLD) student is 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 (Alberta Education, 2006b; Clarke 2002; McCoach, Kehle, Bray & Siegle, 2001). In addition to superior intellectual ability and a performance/potential discrepancy, a processing deficit is also evident (Alberta Education, 2006b; Clarke, 2002; Brody & Mills, 1997).

Although GLD students have been identified as a unique group since the 1970's (Brody & Mills, 1997), they remain under identified in the population of disabled students (Baum, Copper & Neu, 2001). Because criteria used to establish giftedness varies between school jurisdictions (Alberta Education, 2006a), it is difficult to make identification comparisons. It is also difficult to establish common identification criteria (McCoach et al., 2001). In sum, the characteristics of the gifted/learning disabled can impinge negatively on the identification process.

Three types of Gifted/Learning Disabled (GLD)

Because of their academic potential, the gifted/learning disabled student's achievement may not be as low as other students with learning disabilities. For this reason, they may be referred for special education less often than their non-gifted counterparts (McCoach et al., 2001). Brody and Mills (1997) speculate that these students may fail to receive the specialized services they require because they fail to meet the criteria for either gifted or learning disabled programs. Gifted students are often able to compensate for their disabilities and are not achieving below grade level. They may not receive referrals unless there are behavioural issues. On the other hand, students who have learning disabilities may not be identified as gifted because they do not consistently display high achievement. Looking at the reasons behind the lack of referrals, researchers (Baum, 1990; Beckley, 1998; Brody, & Mills, 1997; McCoach et al., 2001) have identified three different types of GLD students: (a) gifted with mild learning disabilities, (b) gifted with severe learning disabilities, and (c) masked abilities and disabilities.

Type I – Mild Learning Disability

The first type of GLD students are those who are gifted with mild learning disabilities. These students tend to do well throughout elementary school and often participate in gifted programs at that level (Clarke, 2002). They do not run into difficulty until they must do higher level work in the area of their disability and may go through periods of underachievement. Because they have previously done well, they are often not identified as learning disabled, but may be looked upon as lazy, lacking motivation, or as having poor self-esteem (Beckley, 1998). Baum (1990) does caution that these may be valid causes of underachieve and must be considered as well.

Type II – Severe Learning Disability

The second type of student has severe learning disabilities, but is also gifted. These students are often identified as learning disabled, but rarely identified as gifted (Clarke, 2002). They are noted for what they cannot do, rather for what they can do and attention becomes focused on their problems. Unless

they are correctly identified and provided with appropriate programming, it is difficult for these students to reach their full potential (Baum, 1990).

Type III – Masked Abilities and Disabilities

The final type of student is generally not identified as gifted or learning disabled. Their gifts mask their disabilities and their disabilities mask their gifts. As a result of this masking they appear average and are not often referred for evaluation (Brody & Mills, 1997). Without a formal assessment, the discrepancy between their ability and their achievement is not noticed. These students may perform at grade level, but do not reach their full potential (Baum, 1990; McCoach et al., 2001). This third group presents an interesting challenge, as their disability may lower their IQ score so significantly that even with testing they may not be identified as gifted (Waldron & Saphire, 1990).

Compensation

Further complicating the identification of gifted/learning disabled students is the idea of compensation (Silverman, 2005). Gifted students are excellent problem solvers. The more abstract reasoning they have, the better able they are to *use reasoning in place of modality strength to solve problems* (Silverman, 2005 p. 2). Compensation can be unconscious or conscious. One part of the brain may take over when another part is damaged. In some cases, students may be taught specific compensation techniques. While compensation can help the student adapt, it can also make an accurate diagnosis of a learning disability more difficult (Silverman, 2005).

Recommended Methods of Identification

A Multi-Faceted Approach

Determining the best method to identify gifted/learning disabled students is not an easy task due to their dual issues. Nielson (2002), in reviewing the Twice-Exceptional Child Projects (a research project funded by the US government), found that gifted/learning disabled student's scores on the WISC-R resembled their gifted peers, while their reading and written language ability more closely resembled that of learning disabled students. Brody and Mills (1997) suggest that since gifted/learning disabled students represent a variety of giftedness in combination with various forms of learning disabilities, one pattern or set of scores that identifies all gifted/learning disabled students is not very likely. There is however a set of characteristics that seems to apply across all gifted/learning disabled students that should be the focus when identifying these students: (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 & Mills, 1997, p. 285).

-Evidence of an outstanding talent or ability.

Although gifts and talents can be demonstrated in a variety of areas, the focus of this paper is on the academic realm. Grimm (1998) suggests that an intelligence test should be the first step in identifying gifted/learning disabled students. Currently, IQ tests such as the Wechsler Intelligence Scales for Children (WISC) are the common method of identifying gifted students (McCoach et al., 2001; Silverman, 2005). While a full-scale IQ of 130 or above has been used to identify students as intellectually gifted, many districts will consider students with IQ scores in the 120's for their gifted programs (McCoach et al., 2001). Brody and Mills (1997) indicate that it is best to avoid rigid cut-offs for identification and programming, as this would, *discriminate against students with the atypical profiles that characterize gifted children with learning disabilities* (p. 287).

Further complicating the matter is the development of the new WISC-IV in 2003. The WISC-IV was updated to reflect current research in the areas of cognitive functioning and learning (Shaughnessy, 2006). In an effort to enhance the WISC-IV's validity, several special group samples were included (Burns & O'Leary, 2004). Among these were gifted students and students with learning disabilities. There were some mixed samples, such as learning disorder and ADHD, but gifted and learning disabled was not one of the combinations used. While a search of the literature on the WISC-IV did reveal research on its use with gifted students (Falk, Silverman & Moran, n. d.; Raiford, Weiss, Rolfhus, & Coalson, 2005; Saklofske, Weiss, Zhu, Rolfhus, Raiford & Coalson, 2005; Silverman, n. d.; Silverman, Gilman & Falk, n. d.; Williams, Weiss & Rolfhus, 2003) and with learning disabled students (Burns & O'Leary, 2004; Raiford et al., 2005; Saklofske et al., 2005; Shaughnessy, 2006; Williams et al., 2003), no literature was found on the use of the WISC-IV with gifted/learning disabled students.

In spite of the lack of research on the use of the WISC-IV with gifted/learning disabled students, two discussions from the literature may have implications for these students. The first is the use of Full Scale IQ (FSIQ) versus the use of the General Ability Index (GAI) with gifted students. The GAI was first developed for use with the WISC-III (Saklofske et al., 2005). The GAI provides a measure of general cognitive ability that does not include the Working Memory Index (WMI) or the Processing Speed Index (PSI). This gives a score that is less sensitive to the influence of working memory and processing speed, two areas that appear to be a challenge for both gifted students and those with learning disabilities (Silverman et al., n. d.). Inclusion of those two scales may lower FSIQ scores for these students, which may have both identification and programming implications. Saklofske et al. (2005) do caution however that working memory and processing speed are related to cognitive ability and research is ongoing as to how the various areas relate.

Secondly, it appears that the traditional cut-off IQ of 130 (Silverman, 2005) may not be appropriate when using the WISC-IV. Falk et al. (n. d.) examined the results of the assessments of 103 children in order to determine the ability of the WISC-IV to identify gifted children. Any student with scores of 17 or higher on any of the WISC-IV subtests, were also given the Stanford-Binet Intelligence Scale (Form L-M) (SBL-M). Of the 103 students, 36 were given the SBL-M. A thorough analysis of the results indicated that a Full Scale IQ score of 123 on the WISC-IV included 75% of the students who scored 130 and above on the SBL-M. From this, they concluded that a Full Scale IQ score of 123 on the WISC-IV may be a sufficient requirement for students to enter into a gifted program. It may then be necessary to look at an even further lowering of the cut-off score for gifted/learning disabled students, since their disabilities may lower their scores (Waldron & Saphire, 1990). There does not appear to be any research or literature in this particular area.

-Expected and actual achievement discrepancy.

Typically, students with learning disabilities show a discrepancy between their performance and their ability (Brody & Mills, 1997; McCoach et al., 2001). Learning disabilities may exert more influence on academic achievement as students leave the primary grades (Reis & McCoach, 2002), it may be wise to examine academic achievement over time. Gifted students with learning disabilities may demonstrate declining achievement over time as their particular learning disability comes more into play. Declining achievement and grades (which for gifted students may still be at grade level), combined with indicators of superior abilities provide clues to educators and can be used as a screening tool (McCoach et al., 2001). Children who demonstrate this decline should be referred for further testing.

While discrepancies between potential and achievement must be identified, Brody and Mills (1997) caution that these discrepancies may be due to reasons other than a learning disability. For this reason, it is necessary to look at the last criteria of gifted/learning disabled students, the processing deficit, which can help distinguish a learning disability from other causes of low achievement.

-Processing deficits.

Discrepancies between potential and achievement are often attributed to processing deficits (Alberta Education, 2006b; McCoach et al., 2001). This area of identification appears to be surrounded by controversy. Brody and Mills (1997) suggest that subtest scores from IQ tests can help with the identification of processing deficits. This can help differentiate between the gifted/learning disabled student and the student who is underachieving due to another cause such as low intellectual ability, emotional problems, or poor educational opportunities. However, while subtests on the Wechsler appear to indicate individual strengths and weaknesses, it has been suggested that there is *overwhelming empirical research that cautions against such practice* (McCoach et al., 2001, p. 407). Additionally, using sub-test scatter with gifted students appears even more problematic as evidence suggests that:

The scaled score range among subtests increases as the full-scale IQ score increases (Patchett & Stansfield, 1992) and that subtest scatter increases as the value of the highest subtest rises (Schinka, Vanderploeg, & Curtiss, 1997). If these findings are true, then intellectually gifted children would display more atypical and scattered profiles than other students. (McCoach et al, 2001, p. 407)

Mayes and Calhoun (2004) conducted a study aimed specifically at testing the validity and reliability of profile analysis in children using the WISC-III. Their sample was made up of 809 clinical children with an IQ of 80 or higher and a diagnosed neurobiological disorder. While the results cannot be directly applied to the gifted/learning disabled population, one of their clinical implications did appear to apply

across populations. Mayes and Calhoun (2004) indicate that while specific profiles should not be the basis for making a diagnosis, they can alert practitioners to possibilities and provide knowledge about the “pattern of strengths and weaknesses . . . which has implications for educational intervention” (p. 566). This was confirmed by Barton and Starnes (as cited in Cloran, 1998) and Waldron and Saphire (1990), who warn against simply using the discrepancy between Verbal scores and Performance scores or an arbitrary cut off score, but instead recommend looking for distinct patterns in the subtests in order to identify gifted/learning disabled students. In a study utilizing the Wechsler Intelligence Scale for Children Revised Edition (WISC-R), involving 24 gifted students with learning disabilities and 24 students without learning disabilities, they found little difference between the Verbal and Performance IQ scores of the gifted/learning disabled students, concluding that traditional use of a 15-point spread between these two scores may not be the best measure to identify this group of students. They did however find that, when compared to their own strengths, the gifted/learning disabled students scored higher on the Verbal Conceptualization and the Reasoning tests than the controls. Waldron and Saphire concluded that gifted students with learning disabilities may rely on these two skills more than their gifted peers and may also use them to mask their deficiencies. These findings again point to the necessity of looking beyond the scaled scores and examining the subtest scores.

Nielsen (2002) cautions us to not look solely at differences between Verbal & Performance IQ scores, by reviewing three studies that analyzed gifted/learning disabled students scores on various subtests of the WISC-R. This research indicates that it is not sufficient to compare Verbal and Performance scores in order to identify the gifted/learning disabled. This is due to the wide range of scores within each test, indicating *extraordinary strengths and unusual weaknesses in both domains . . . which can average out the composite scores* (Silverman, 1989, p. 38) (Nielsen, 2002, p. 96). Nielsen does however recommend examining the scores for extreme scatter (a difference of at least 7 scaled-points), as gifted/learning disabled students do appear to display similar types of scatters. Ferri et al. (1997) also found that gifted students with learning disabilities have more discrepancies on the WISC-III subtest than do students who are only gifted or who are only learning disabled.

Bray, Kehle and Hintze (1998) offer a different perspective. After a review of the literature, Bray et al. came to the conclusion that while intelligence tests can predict academic achievement, they do not have any real benefit in planning academic interventions. Further, they found no evidence to connect any of the subtests with pathology in a statistically significant way.

Clearly there is conflicting data and opinions surrounding profiling and the use of subtests and scatter patterns in identifying processing deficits. Complicating this issue even further is a new revision of the WISC, the WISC-IV released in August, 2003. This test no longer uses the Verbal and Performance Scores. In their place are four new scales, Verbal Comprehension, Perceptual Reasoning, Memory and Processing Speed. While Verbal Comprehension and Perceptual Reasoning seem to have the most relevance to giftedness, even more so than Full Scale I.Q. (Silverman, n. d.), there is no indication of how the scales relate to the gifted/learning disabled. Further study is needed not only in the use of the various scales, but also in how the WISC-IV can help identify gifted/learning disabled students.

An enhanced version of the WISC-IV, the WISC-IV Integrated appears to have potential in assessing processing discrepancies. The WISC-IV Integrated includes 16 additional process subtests to help determine the student's strengths and weaknesses (Shaughnessy, 2006). The Integrated test uses a process approach that allows the examiner to examine how the students arrive at their responses. The idea that how students come up with their answers, is as important as their answers, ties in well with gifted students' thinking processes. The Integrated also *allows us to analyze how a child performs a task when only the stimulus presentation or the response format is modified* (p. 137). This type of analysis can reveal where the student's difficulties lie and may help in developing specific programming for the student.

Regardless of how the IQ test is used, Silverman (2005) stresses the importance of looking at IQ tests from an interpersonal rather than a normative view. That is, *to what extent does the discrepancy between this child's strengths and weaknesses cause frustration and interfere with the full development of the child's abilities?* (p. 7) rather than, *How does this child's performance compare to the norm?* (p. 7). Silverman stresses that it is the subtest scores in the superior range that define the student's giftedness and *disabilities are detected by analyzing the weakest subtest scores in relation to the strongest* (p. 8). Additionally, the *highest score that they attain on any IQ test at any time in their lives should be taken as the best estimate of their cognitive abilities* (p. 8). This is due to the many factors

that can affect their performance, including the effectiveness of their compensation mechanisms on any given day.

This is an area that is in need of further research, not only on the issue of profiling using subtests and scatter patterns to assess processing deficits, but also on the appropriate use of the WISC-IV in identifying gifted/learning disabled students. This controversy also speaks to the importance of utilizing more than one method in the identification of gifted/learning disabled students.

Finding the Missing Students

Recommendations have also been made in order to *catch* students who may have been missed due to the effects of masking. Grimm (1998) suggests comparing students to others with the same disability to identify possible outstanding abilities. Nielson (2002) suggests that an examination of all records is needed to identify gifted/learning disabled students who may have been missed. Any student with a learning disability and with a score of 120 or above on any IQ measure warrants a closer look. Nielson also stresses that demanding a score at or above 130 is unreasonable for learning disabled students. Because the negative behaviours of some gifted/learning disabled students may have resulted in behaviour referrals, these should be examined as well. Lastly, students previously identified as gifted should also be examined for possible learning disabilities (Nielson).

Summary of the Multi-faceted Approach

The literature indicates that a multi-faceted approach towards the identification of students who are gifted/learning disabled is the most valid approach. Given the controversy and issues surrounding the use of IQ tests and assessing processing deficits, a multi-faceted approach makes sense. Grimm (1998) suggests that the intelligence test is only the first step. If scores on this test indicate possible giftedness, further data should be collected from significant others and the student by way of special education checklists that include noted gifted behaviour. Behavioural checklists that include both positive and negative behaviours are useful in the identification of the gifted/learning disabled (Clark, as cited in Cloran, 1998). Reis, Neu and McGuire (as cited in Reis & McCoach, 2002) developed a list of positive and negative characteristics associated with gifted/learning disabled students. The list includes negative behaviours such as learned helplessness, failure to complete tasks, disruptiveness, lack of organizational skills and lack of social skill, combined with positive characteristics such as advanced vocabularies, exceptional analytic skills and problem solving skills, and the ability to think of divergent ideas and solutions. It is this unique combination of positive and negative characteristics that can help to identify gifted/learning disabled students (Reis & McCoach, 2002).

Cloran (1998) and McCoach et al. (2001) also advocate for a multi-faceted approach by promoting the use of curriculum-based assessments, informal inventories, portfolio reviews, behavioural assessments, and measures of cognitive processing. Eisenberg and Epstein (as cited in Beckley, 1998) recommend the use of the Scales for Rating the Behavioral Characteristics of Superior Students. These include scales such as, *the Learning, Motivation, Creativity, Leadership, Art, Music, Drama, and Communication scales* (Beckley, 1998, ¶7).

Vaidya (1990) concurs with others in respect to a multi-faceted approach advocating for the use of a portfolio, input from parents and teachers, and creativity tests in addition to the use of IQ and achievement tests. Vaidya suggests that while IQ tests can be used to assess specific strengths and weaknesses and achievement tests can be examined to determine giftedness in specific subject areas, portfolios can provide more insight into the student's developmental thought processes and uniqueness by an examination of their *record of ideas, drafts, critiques, journal entries, final drafts . . .* (p. 569). Input from parents can give clues as to the student's gifted behaviours such as high degrees of curiosity and abstract thinking, while teacher anecdotal records provide information about behaviours and talents displayed in the classroom. Lastly, Vaidya concurs with Nielson (2002) in recommending the use of creativity tests, like the Torrance Test of Creative Thinking, which measures divergent thinking skills such as flexibility, originality and fluency. The advantage of this type of test is that it examines how the student thinks, rather than simply identifying specific skills. This aids in further understanding of the student and provides for direction educational programming. It is interesting to note that one study found that peer and self-nomination were often more valuable in identifying gifted/learning disabled students than were teacher nominations (Davis & Rimm, as cited in Beckley, 1998). This may also be an interesting area for further study.

While several researchers (Cloran, 1998; Grim, 1998; Reis & McCoach, 2002) have indicated the need for a multifaceted approach to identification, few have provided specific recommendations for validated or standardized tests or specific behavioural and other checklists. The WISC is the most

commonly used IQ scale (Keith, Fine, Taub, Reynolds, & Kranzler, 2006; Silverman, 2005). Nielson (2002) suggests resources such as, "Scales for Rating the Behavioral Characteristics of Superior Student-Revised (Runzulli et al., 1997), the Test of Creative Thinking (Torrance, 1966), and the Checklist of Creative Positives (Torrance, 1997; Torrance, Goff & Satterfield, 1998)" (p. 101). Cloran (1998) suggests the Standard Progressive Matrices to assess non-verbal ability and mathematical ability and the Slosson Intelligence Test that screens for *verbal precocity* (p. 20). Further research is needed to identify additional assessment tools and how they can be used for the assessment and identification of the gifted/learning disabled student as well as to provide updated information on previously identified assessments.

Summary

What is Missing?

After more than 30 years, the identification and assessment of gifted/learning disabled students remains both controversial and incomplete. In order to address this, Brody and Mills (1997) stress the importance of *operational definitions and identification criteria* (p. 285). These definitions would be a good first step in addressing the needs of this specialized group of students.

In addition to the development of more concrete definitions, this literature review identified several areas where further research is needed. The first is in the area of masking; giftedness masking the disability and/or the disability masking the giftedness. While several researchers (Ferri et al., 1997; McCoach et al., 2001) discuss the concept of masking and suggest it as a reason for the difficulty in identifying gifted/learning disabled students, there is no known method of identifying in which students it occurs. It is impractical to screen all students who are achieving at grade level to look for hidden disabilities (McCoach et al., 2001). McCoach et al. (2001) have identified this as an area for future research; documentation on the existence of these students and identifying their distinguishing characteristics to aid in future identification.

Currently there is no empirical data supporting the use of longitudinal screening in identifying gifted students with hidden learning disabilities (McCoach et al., 2001). Given the evidence that learning disabilities exert more influence on achievement as students progress out of the primary grades (Reis & McCoach, 2002), this is an area that warrants further research.

Lack of consensus on the use of IQ tests and their subtests, combined with the addition of the new WISC-IV highlight the need for further research and discussion on their use for identifying gifted/learning disabled students and for determining individual learning deficiencies and strengths. While there is consensus that a multi-faceted approach is needed in the identification and assessment of gifted/learning disabled students, there is a general lack of guidelines in this area. Multiple standardized assessments are suggested, with no guidelines on which to use or how to use them for this specific population. Parent, teacher and other significant other checklists are recommended with no clear guidelines on what those checklists should include. Since teachers make 80-85% of all referrals for special education, it is vital that they are given the tools needed to identify possible gifted/learning disabled students (Hishinuma & Tadaki, 1996).

What is Known?

There are however, a few clear guidelines. First, a variety of methods are required for the adequate identification and assessment of this population (Beckley, 1998; Cloran, 1998; McCoach et al.; Nielson, 2002). This includes IQ and achievement tests, parent and teacher rating scales, behavioural scales, creativity tests, and portfolios. Second, the cut-off for full scale IQ should be reduced to 120 for gifted/learning disabled students to account for masking issues (Falk et al., n. d.; Silverman, 2005). Third, while IQ test profiling remains a controversial issue, it may be beneficial to consider a superior score on any of the subtests as the true estimate of potential, regardless of the combined scores (Silverman, 2005). Fourth, longitudinal assessment may be useful as difficulties may not be apparent until students move out of elementary education and are required to use more of the skills with which their learning difficulties interfere (Reis & McCoach, 2002). A literature synopsis completed by the Center for Gifted Education at the University of Calgary (2005) contends that the approach to identifying gifted students with disabilities must be different than the approach used in identifying gifted students without disabilities. They recommended the following strategies to guide those responsible for identifying gifted students with learning disabilities:

**Look beyond test scores. * When applying cutoffs, bear in mind the depression of scores that may occur due to the disability. * DO NOT aggregate subtest scores into a composite score. **

*Compare with others who have similar disabilities. * Weight more heavily characteristics that enable the child to effectively compensate for the disability. * Weight more heavily areas of performance unaffected by the disability. (p. 17)*

Future Directions

This literature review suggests several directions for future projects. An examination of the scatter patterns of gifted/learning disabled students on the new WISC-IV could be examined determine any similarities among gifted/learning disabled students or any differences between this population and gifted/non-disabled or learning disabled/non-gifted (Ferri et al., 1997). A comprehensive screening package could be developed for parents and teachers that incorporates positive and negative behaviour scales based on identified characteristics of gifted/learning disabled students ((Reis & McCoach, 2002). A comprehensive identification and assessment package could be developed for psychologists that includes recommendations on all the tests, scales, checklists and other assessments needed to adequately identify gifted/learning disabled students. Moving to the next step, programming strategies that work to develop the student's particular strengths in light of their disabilities could be developed for the classroom teacher. The goal of any future research or program development is to help these students reach their maximum potential, a potential that is currently not being tapped.

Conclusion

We have determined that the gifted/learning disabled are an under-represented group in terms of specialized educational programming (Brody & Mills, 1997). A large part of the problem has been the lack of a definitive definition and identification criteria (Brody & Mills, 1997). The characteristics that lead to problems with identification are the very characteristics that make it so important to provide specialized programming. Gifts that mask disabilities may lead to those disabilities remaining undiagnosed until other problems such as disruptive behaviours, frustration, and depression develop (Baum, as cited in Beckley, 1998). On the other hand, disabilities that mask gifts may result in lost potential with these students, who never get, or at least delay, the opportunity to develop their unique talents. This review provides support for further research in the areas of identification and assessment. The development of new testing materials such as the WISC-IV makes this research all the more important. Nielson (2002) concludes that, *twice-exceptional children must be viewed as being 'at promise' rather than being 'at risk'* (p. 93).

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