Guidelines for Diagnosis and Assessment of Children, Adolescents, and Adults with Learning Disabilities

Consensus Statement and Supporting Documents

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Document Versions:

The January 2020 Update expands the section on Frequently Asked Questions to include:

1. What adaptations should be made in assessments and diagnosis of LD for children who attend French immersion programs?
2. What is Dyslexia?
3. What is a Non-verbal Learning Disability (NLD)?
4. What are some guidelines for recommending memory aids as an academic accommodation in post-secondary education?"

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Consensus Statement on Diagnosis and Assessment of Children, Adolescents and Adults with Learning Disabilities

Purpose

This paper presents a standard, step-wise process for psychological assessment, along with a set of criteria for diagnosis of a Learning Disability (LD) that is consistent with current research. The intention of this approach is to bring consistency in the diagnosis protocols of psychology practitioners across age groups, settings and populations, and it is designed to be inclusive of all children, adolescents and adults, including those who are from culturally and linguistically diverse (CLD) backgrounds.

The impetus for the project was the observed variability in assessing and diagnosing LD resulting from advances in research, new diagnostic criteria for Learning Disorders in the Fifth Edition of the Diagnostic and Statistical Manual (DSM-5) of the American Psychiatric Association (2013), and the definition adopted by the Learning Disabilities Association of Canada in 2002 and ratified in 2015.

It is the product of a group of Ontario psychologists, including representatives from school districts, mental health agencies, hospitals, colleges and universities, graduate education and training programs in psychology, and practitioners in the community in private practice. It constitutes a consensus among the members of the group with respect to both the diagnostic criteria and the assessment process.

Criteria for a Diagnosis of Learning Disability

A Learning Disability is diagnosed when specific criteria are met, to the exclusion of other factors that may impair functioning. See supporting documents for additional information about these criteria.

All of the following criteria must be met to make a diagnosis of Learning Disability:

A. History of academic functioning below the level typically expected for individuals of the same chronological age, or the need for excessive time or support to develop or maintain typical levels of academic functioning.

B. Below average academic achievement (i.e., at least one standard deviation below the mean) in at least one of:
   - Reading - indicated by any of
     - word identification or pseudo-word reading;
     - fluency in reading individual words or text;
     - timed or untimed literal or inferential reading comprehension.
   - Writing - indicated by any of
     - production fluency for handwriting or typing;
     - spelling from dictation and in text;
     - sentence structure;
     - conventions of print;
     - vocabulary; ideation; organization of written text.

- Mathematics - indicated by any of
    - Calculation, including but not limited to: numeracy, algebra, geometry and calculation fluency;
    - applications such as the understanding of time, money, measurement, data analysis;
    - and word problem-solving including geometry and data interpretation.

C. Evidence that the difficulties in reading or writing or mathematics are logically related to deficits in psychological processes. These processes include:
- phonological processing;
- orthographic processing;
- rapid automatized naming;
- memory;
- processing speed;
- receptive language;
- expressive language;
- visual-spatial abilities;
- visual-motor integration;
- executive functioning.

D. At least average abilities essential for thinking and reasoning.

E. Evidence that the difficulties in reading, writing, or mathematics cannot be accounted for ***primarily*** by factors such as
- Other conditions or disorders (e.g., intellectual disabilities, uncorrected visual or auditory acuity, physical or chronic health disabilities, other neurodevelopmental disorders, or internalizing or externalizing disorders);
- Environmental factors (e.g., psychosocial adversity, inadequate or inappropriate educational instruction);
- Insufficient motivation or effort;
- Cultural or linguistic diversity.

Note: Learning Disabilities may co-exist with various other conditions or disorders.

Steps for Assessment and Diagnosis of LD

See Supporting Documents for additional information about these steps.

<u>Step 1</u>
Determine whether there is a history of academic impairment.

<u>Step 2</u>
Determine whether there is evidence of developmental, health, educational, or contextual factors that are risk factors for LD and other learning difficulties.

<u>Step 3</u>
Assess academic achievement (using individual standardized achievement tests).

Step 4
Assess basic psychological and cognitive processes that are risk factors for the specific difficulties in reading, writing or mathematics experienced by the individual being assessed.

Step 5
Assess abilities essential for thinking and reasoning.

Step 6
Assess and rule out other factors that could better explain the pattern of results, including effort, motivation, and noncompliance with instructions.

Step 7
Assess the social, emotional and behavioural strengths and difficulties that are common in individuals with LD.

Step 8
Develop a formulation and diagnostic statement in accordance with the above criteria for a diagnosis of LD.

Step 9
Identify the types of evidence-based and realistic supports and interventions that are required.

Step 10
Communicate the results of the assessment, the diagnosis and the recommendations.

Supporting Documents

Purpose and Historical Context for Developing the Consensus Statement on Diagnosis and Assessment of Children, Adolescents and Adults with Learning Disabilities

In Ontario in the late 1990's, the Ontario government commissioned a seminal study of children's early development (McCain & Mustard, 1999). One of the many observations in the study was a concern that difficulties in school were not identified early enough for effective intervention. In response, the Ontario Ministry of Education funded the Learning Disabilities Association of Ontario (LDAO) to convene two panels of experts to identify guidelines for earlier identification of Learning Disabilities (LD) in children. The Promoting Early Intervention initiative formed two working groups: (1) Definition Working Group; and (2) Screening and Assessment Working Group. Their tasks were to review the Learning Disabilities literature, to develop a consensus definition, and to draft practical guidelines for the psychological assessment of LD. The consensus definition of LD proposed by the LDAO (2001) was adopted widely across Ontario and was shared with the Learning Disabilities Association of Canada, who made minor modifications and adopted a similar definition for national use in 2002, which was ratified again in 2015. During this period, many psychologists utilized the LDAO guidelines for both the identification and the diagnosis of LD, across ages and across settings.

Since that time, there have been research advances in the field of LD and a number of updated policy and position papers, along with greater awareness of the specific issues pertaining to culturally and linguistically diverse individuals. Correspondingly, we have seen increasing variability in the approaches to assessment of LD.

A new edition of the DSM (DSM-5) was published in 2013 by the American Psychiatric Association. The DSM-5 categorizes a Specific Learning Disorder as a neurodevelopmental disorder. There are four essential features of the diagnosis:

- persistent difficulties learning and using key academic skills despite the provision of interventions that target those difficulties;
- performance of academic skills that are well below average for chronological age;
- appearance of the learning difficulties in the school years; and
- a recognition that learning difficulties are not attributable to other neurological conditions or intellectual disabilities.

Beyond meeting basic diagnostic criteria, the DSM-5 cites the need for further assessment in order to indicate the level of impairment. For a disability, "additional information is usually required beyond that contained in the DSM-5 diagnosis, which might include information about the individual's functional impairments and how these impairments affect the particular abilities in question" (p. 25). This information may provide further direction regarding intervention (Tannock, 2013).

While the DSM-5 was being revised, the primary guideline for identification in the education sector was also updated. In 2014, with consultation from the psychology community, the Ontario Ministry of Education published the Policy and Program Memorandum 8 (PPM8) to revise criteria for the identification of students with Learning Disabilities as a learning exceptionality. The document defines Learning Disability as "one of a number of neurodevelopmental disorders that persistently and significantly has an impact on the ability to learn and use academic and other skills. Although PPM8 does not set diagnostic criteria for a Learning Disability in schools, it brings the Ministry's exceptionality definition of Learning Disability closer to the diagnostic criteria.

In 2016, the Association of Chief Psychologists with Ontario School Boards produced guidelines for diagnosing Learning Disabilities. These guidelines recognize Learning Disabilities as a type of neurodevelopmental disorder, and include the assessment of academic achievement, as well as intellectual abilities and a range of cognitive processing abilities. The document focuses on guidelines for diagnosis to guide intervention, rather than on the assessment process.

Within the post-secondary sector, neither an educational identification nor a DSM diagnosis of a Specific Learning Disorder is necessarily sufficient to grant academic accommodations to students seeking them. This is because, at the post-secondary level, access to accommodations is reserved for individuals demonstrating a *disability.* This entails a degree of functional impairment in "daily activities of living" that prevents them from fully accessing and participating in the post-secondary school curriculum. This standard derives from the criteria laid out in the Ontario Human Rights Code (1990), which is the legislation governing Ontario colleges and universities.

Currently, there is no consensus among psychology practitioners about criteria for best practice with regard to assessment and diagnosis of individuals referred to psychology practitioners due to potential Learning Disabilities. As a result, there have been increasing differences between assessments that are based on identification criteria (i.e., in elementary and secondary educational settings) and diagnostic assessments based on DSM-5. These differences cause confusion and at times, disruptions in services for individuals, such as when they transition from high school to post-secondary education or to the workplace. Consequently, there is a need to bring our profession together in a common understanding of a model for assessment and diagnosis that is used consistently across various sectors (e.g., school districts, mental health agencies, hospitals, colleges and universities, graduate education and training programs in psychology, and private practice). We hope that this common understanding will improve consistency in professional practice among psychology practitioners and ultimately serve the best interests of our clients and their families.

Steps for Assessment and Diagnosis of Learning Disabilities: Key Points and Guiding Questions to Consider as Appropriate

This appendix provides key points for consideration for each of the ten assessment steps in the Consensus Statement. Some steps also have guiding questions to assist the psychology practitioner to best understand the profile of the individual, to conceptualize the formulation, to support clinical judgment, and to develop recommendations for intervention. The factors listed in the guiding questions should not be viewed as causes of a Learning Disability (LD), nor do they rule out the presence of LD. They should, however, be considered when interpreting the results of the assessment. The intent is not to have practitioners address each question in psychological reports, but for consideration in formulating a diagnosis.

Step 1: Determine whether there is a history of academic impairment.

Key Points for Consideration

A thorough history is essential. Academic problems are not always obvious and may be difficult to document, but if there are no academic problems, then there is no Learning Disability. An individual, however, may have average grades on his or her report card in the presence of learning difficulties and potential disability. This could be because the grades are given on the basis of a modified program that is below his or her actual grade level or because of high levels of effort and support.

In younger children, risk factors may be reflected in difficulties with skills that are precursors to reading, writing and math skills. These include acquiring the sounds of language, vocabulary, basic numeracy, or fine motor delays.

Guiding Questions to Consider as Appropriate

For individuals who are currently in an educational setting:

- Is there a history of low or failing grades in school?
- Has the individual invested very high levels of effort or relied on very high levels of support, such as through private tutoring or remedial support to achieve adequate grades?
- At what level were scores on provincial or other standardized tests of academic achievement?
- Has the individual received program accommodations?
- Have teachers made curriculum modifications and did they grade on the basis of the modified program?
- Was there a notable deficit in a specific area of performance (e.g., tests, homework completion, note-taking)?
- Has the individual received evidence-based, classroom-based instruction in reading, writing, and mathematics?
- Has the individual received and responded to a small group intensive intervention to address difficulties in reading, writing, and mathematics or challenges likely associated with English or French being their second language?

For individuals who are not currently in an educational setting

- What is the individual's highest level of formal education?

- Has the individual taken more than the typical amount of time to complete a secondary or postsecondary education program?
- Does the individual struggle with tasks that involve literacy, numeracy or executive functioning in the workplace or in the community?

Step 2: Determine whether there is evidence of developmental, health, educational, or contextual factors that are risk factors for LD and other learning difficulties.

Key Points for Consideration

Risk factors for LD identified within international research include:
- heritability of reading disabilities (see Petrill, 2013; Willcutt et al., 2010 for review);
- prenatal, neonatal or childhood medical risk factors (see Ashkenazi et al., 2013 for review);
- specific psychological processing deficits (e.g., Swanson & Zheng, 2013);
- slow development of reading decoding skills in culturally and linguistically diverse individuals (e.g., Geva & Wiener, 2015).

Guiding Questions to Consider as Appropriate

- Do other family members experience significant academic challenges or have others been diagnosed with any disability that could impact learning?
- Were language milestones in the individual's first language or motor milestones delayed?
- Is there a history of any prenatal, neonatal or childhood medical risk factors that might predispose the individual to having learning difficulties?
- Did the individual experience interrupted schooling or schooling in a language of instruction other than English or French?
- Are there current or past family stressors that make it difficult for parents or caregivers to provide cognitive and linguistic stimulation?

Step 3: Assess academic achievement using individual standardized achievement tests.

Key Points for Consideration

A core aspect of the definition of LD is that the individual's academic achievement is below average. For this reason, administration of a standardized individual achievement test is central to the assessment. For an individual with LD, a normative weakness (such as a score at least 1 standard deviation below the mean) in components of reading, writing, or mathematics skills needs to be demonstrated. In addition to interpreting test scores, it is important to observe the individual's behaviours when engaging in academic tasks, to test the limits, and to perform error analyses.

For English-speaking individuals being educated partially or fully in French or vice versa, it is helpful to administer a standardized individual achievement test in English and French. Practitioners should take into account that there are currently no norms available for French immersion students (Genesee & Jared, 2008). Work samples may be used as supplementary evidence of academic difficulties.

Guiding Questions to Consider as Appropriate

Regarding observations when working with the individual (this list of questions is not intended to be exhaustive):

Does the individual:

- respond better when instructions are presented orally versus in writing
- require instructions to be repeated frequently
- respond better orally or in writing
- respond better by pointing or through multiple choice questions or by copying than when having to generate his or her own response
- respond better when concepts and skills are tested through a game, activity, or computer task than by formal tests
- compensate for challenges by using active adaptive strategies, such as rehearsal, mnemonics, imagery, or drawing a diagram
- plan, self-monitor and edit
- respond slowly or impulsively
- require frequent feedback or reinforcement
- master a skill or concept quickly and retain it and/or respond to a particular type of teaching?

Regarding error analysis:

- Is there evidence of errors due to possible inattention or executive functioning difficulties, such as:
  - Does not notice math signs or a shift between operations, guesses quickly when reading, or does not notice errors and self-correct?

- Is there evidence of errors that suggest inadequate understanding of a skill or concept, such as:
  - does not do regrouping in subtraction
  - does not correctly pronounce the long vowel in words ending in a silent “e”
  - does not know how to read a calendar or recite days of the week or months of the year?

- Does the individual struggle with a higher-level skill due to problems with a lower-level skill such as:
  - does not read fluently or comprehend because of struggles to decode most words
  - makes errors when solving word problems because of inadequate knowledge of number facts and tables?

- Are the errors consistent/inconsistent with the difficulties experienced among culturally and linguistically diverse (CLD) individuals? (See FAQ 3)

Regarding English-Speaking students educated partially or fully in French or French students educated partially or fully in English:

- are their skills more developed in French or English
- is there evidence of positive transfer (i.e., correctly applying the principles they acquired from instruction in French or English to the other language) or of negative transfer (i.e., incorrectly applying French or English language rules to the other language)
- what supports are they obtaining for achievement in each language?

***Step 4*: Assess basic psychological and cognitive processes that are risk factors for the specific difficulties in reading, writing or mathematics experienced by the individual being assessed.**

Key Points for Consideration

Processing deficits alone do not constitute a Learning Disability. They must be linked logically to the individual's functional impairment. Deficits in specific psychological processes have been found to place individuals at risk for specific academic difficulties (e.g., Geary, 2011; Ozernov-Palchik et al., 2017; Swanson & Zheng, 2013). Processing difficulties may also affect the individual in areas of functioning beyond academics, such as in social interaction and occupational functioning. Deficits in information processing may guide specific interventions to improve the individual's functioning.

Administer tests that would amplify the understanding of the nature of the individual's Learning Disability. For example:

- Reading: Word level reading disabilities are associated with difficulties with phonological processing, rapid automatized naming (RAN), and orthographic processing (see Kilpatrick, 2015; Swanson & Zheng, 2013 for review). Furthermore, individuals with both phonological processing and rapid automatized naming difficulties are at a higher risk than individuals with only deficits in RAN (Ozernov-Palchik et al., 2017). Individuals with reading disabilities at the word level are likely to have difficulty with reading fluency, and consequently with reading comprehension. Adolescents and young adults with reading disabilities at the word level may have learned to decode words, but continue to have difficulty with reading fluency, which may affect reading comprehension and spelling. There are, however, individuals with average reading skills at the word level who have difficulties with reading comprehension. These individuals tend to have intact phonological processing but difficulties with oral language, involving vocabulary, morphological awareness, verbal working memory (e.g., measured by sentence repetition) and RAN (e.g., Swanson & Zheng, 2013).

- Writing: The evidence with regard to processing factors that are associated with writing difficulties is not as strong as for reading and math due to minimal research on cognitive processes underlying writing. The evidence suggests that individuals with reading disabilities at the word level typically have difficulties with spelling, typically persisting into adulthood. Difficulties in visual-motor integration, fine motor difficulties, and processing speed are often associated with graphomotor (handwriting) difficulties. Individuals with difficulties in handwriting and spelling typically have difficulty with written expression. This occurs, in part, because the cognitive effort needed to write words on the page with correct spelling may reduce capacity for thinking about content and form. In addition, problems with oral language and executive functioning are risk factors for difficulties with written expression (e.g., Harris & Graham, 2013).

- Mathematics: Some studies have shown that mathematics disabilities involving calculation are associated with difficulties in visual-spatial abilities, visual-spatial working memory, and processing speed. Individuals who have difficulty with calculations typically have difficulty with processing basic numerical magnitude, math fluency and problem solving. There are, however, individuals with average skills in calculation and math fluency who have difficulties with solving math problems. They often have disabilities in reading

comprehension and oral language (Geary, 2011; Geary et al., 2012; Moustafa et al., 2017; Swanson & Zheng, 2013).

Step 5: Assess abilities essential for thinking and reasoning.

Key Points for Consideration

For many individuals with LD, standardized individual intelligence tests provide valid measures of global ability (e.g., Beal et al., 2016; Sattler, 2008). These tests include the *Wechsler tests, Stanford Binet, Woodcock Johnson Test of Cognitive Abilities, the Kaufman Assessment Battery for Children* and others. Global scores include Full Scale IQ (FSIQ), General Ability Index (GAI), General Intellectual Ability (GIA), General Factor – Fluid Intelligence (Gf), General Factor - Crystallized Intelligence (Gc), Fluid-Crystallized Index (FCI), and Mental Processing Index (MPI), to name a few.

Standard scores that are between 85 and 115 (i.e. within one standard deviation of the mean) should be considered to be average. Clinical judgment should be used if any scores outside this range (i.e. below 85) are used to represent or justify the criterion of average functioning.

For some individuals with LD, the global scores from these tests may not be valid measures of thinking and reasoning for these reasons:

- Processing deficits, such as in language, visual-spatial areas, working memory, or processing speed may reduce scores on specific component scales and the global score (e.g., Beal et al., 2016; Sattler, 2008; Stanovich, 1991).
- Longstanding Learning Disabilities, particularly in reading, influence scores on IQ tests, such that verbal scores often decline over time in individuals who struggle with reading. (i.e., Matthew effect; Stanovich, 1986).
- Culturally and linguistically diverse individuals and individuals with language processing deficits often obtain lower scores on tests that have high linguistic and cultural loading. These include some tests that are purported to measure fluid reasoning having instructions with high verbal content (Cormier et al., 2016).
- Individuals who have experienced trauma may require some time to develop trust with psychologists before a valid assessment of intellectual ability can be obtained (Bronstein & Montgomery, 2011).
- Some individuals who have minimal or no schooling may also not have had experience with tasks such as two-dimensional puzzles, sorting by shape, and constructing and analyzing patterns (Beal et al., 2016; Ehntholdt & Yule, 2006; Geva & Wiener, 2015).

In cases where a global score on a standardized individual intelligence test does not appear to be a valid measure of abilities essential for thinking and reasoning in individuals with LD, psychologists should consider the following alternatives:

- Using scores on component scales as the estimate of abilities essential for thinking and reasoning (e.g., Verbal Comprehension Index, Fluid Reasoning Index on a Wechsler test).
- Performing a careful analysis of subtest scores to determine whether there is evidence of at least average abilities essential for thinking and reasoning in any major area of functioning.
- For individuals with language impairments and those for whom English or French is not their first language, administering a nonverbal intelligence test to estimate abilities essential for thinking and reasoning.

- Comparing scores on the current assessment with previous assessments if available.
- Postponing or deferring administration of an intelligence test due to the need to develop rapport.
- Deferring judgment about abilities essential for thinking and reasoning due to differences between observations of adaptive behaviour and scores on standardized intelligence tests, and not reporting the global scores.

Guiding Questions to Consider as Appropriate

Psychology practitioners should consider the following carefully when selecting, administering, and interpreting a test of intellectual ability:

- To what extent might processing difficulties affect the results of the tests?
- To what extent might longstanding learning difficulties be affecting scores on IQ tests?
- Are the scores obtained on the measure of intellectual ability consistent with observations of functional or adaptive behaviours?
- Are global ability scores consistent over time?
- Has sufficient trust and rapport with the individual been developed to obtain a valid estimate of intellectual ability?
- Has the individual had sufficient exposure to the language of the cognitive ability test? If not, how might this affect performance on the verbal tests? How might it affect performance on some of the fluid reasoning and visual-spatial tests given their verbal loadings?
- Has the individual had sufficient experience with puzzles, sorting by shape, constructing and analyzing patterns?

Step 6: Assess and rule out other factors that could better explain the pattern of results, including effort, motivation and non-compliance with instructions.

Key Points for Consideration

The importance of accurately detecting suboptimal effort when it exists cannot be overstated, given the consequences for data interpretation, diagnostic and etiologic statements, as well as directives for clinical and educational support.

Historically, formal assessment of effort during testing was reserved for cases in which malingering was considered a threat to the validity of test results, as for example among people seeking obvious external gains in forensic settings. More recently, the importance of gauging effort within learning assessments of children, youth and adults has been recognized (DeRight & Carone, 2013). It is important to differentiate not complying to do one's best in testing from use of inadequate strategies or learned helplessness which are different issues (Meltzer et al., 2004).

Clinical judgment alone does a poor job of identifying non-credible performance (Faust et al. 1988). Therefore, the inclusion of measures of effort into learning and neuropsychological assessments is becoming commonplace. Both embedded measures and stand-alone measures have shown utility in measuring effort in children (Donders, 2005, Kirkwood & Kirk, 2010).

However, assessment of effort goes beyond just using tests of effort. It requires consideration of the *consistency* of information drawn from a *range* of sources. For more information on this process and tests, see Assessment and Resource Centres of Ontario (2014).

When there is objective evidence of inadequate effort, the assessment results are not credible and should not be interpreted for the purpose of diagnosis. Regular use of formal assessments of effort offer an essential step in ensuring optimal understanding of the issues presented.

***Step 7: Assess the social, emotional and behavioural strengths and difficulties that are common in individuals with LD*.**

Key Points for Consideration

Individuals with LD are at increased risk for social, emotional and behavioural difficulties. In some cases, these difficulties are associated with ADHD which is frequently comorbid with LD (Barkley, 2015; Pliszka, 2015), or with other neurodevelopmental or mental disorders. In other cases, some individuals with LD have social, emotional, or behavioural difficulties that do not meet criteria for other diagnoses (see Wiener & Timmermanis, 2012 for review). These difficulties may be related to psychological processing deficits (e.g., interpreting sarcasm, reading body cues, and tracking group conversations; Milligan et al., 2015) or be secondary to the challenges they experience with academics and other school-related stressors. These social, emotional, and behavioural difficulties may interfere with learning and performance in school, work and other settings.

Consider the social, emotional and behavioural functioning of all individuals referred for learning difficulties. However, the comprehensiveness of the assessment may well vary in accordance with the individual's presenting problems and the context. For individuals not presenting with significant social, emotional or behavioural problems, it may suffice to observe their social interactions during the assessment and their emotional responses when given challenging material. For these individuals, informal interviews with the individual, parents or caregivers, and teachers may be sufficient. Screening across several domains using standardized, broad-band measures can be helpful. For individuals with more significant difficulties, diagnostic interviews, standardized rating scales assessing problems in specific areas, structured behavioural observation, and formal and informal projective and play-based tests may be required.

Guiding Questions to Consider as Appropriate

Regarding Self-Awareness

- What is the nature of the individual's self-esteem and academic self-concept?
- Is the individual motivated to achieve academically?
- Does the individual understand his/her strengths and weaknesses and has he/she attempted strategies to accommodate for his/her difficulties?
- Is the individual able to self-advocate?

Regarding Social Competence and Social Relationships

- What is the quality of the individual's social competence?
    - Social awareness
    - Social communication
    - Emotion Regulation
    - Social perspective taking and social problem-solving

    - Sense of humour
- What is the quality of the individual's social relationships?
    - Are they accepted, rejected, or neglected by their peers?
    - Have they experienced bullying or have they engaged in bullying behaviors?
    - Do they have friends? Who are their friends? What is the quality of their relationships?
    - For adolescents and adults: Do they date? Are they involved in a stable romantic relationship? If so, what is the quality?
    - Are social relationships and interactions primarily conducted through social media rather than in face-to-face interaction?
    - What is the quality of relationships with parents/caregivers and siblings?
    - What other resources do they have in terms of social support?
- Are any social difficulties consistent with the social impairment typical in ADHD or an Autism Spectrum Disorder?

Regarding Internalizing Behaviours and Disorders

- Does the individual manifest significant levels of anxiety?
- Is the anxiety mainly confined to academic achievement contexts?
- Does the individual meet criteria for an anxiety disorder such as Generalized Anxiety Disorder, Separation Anxiety Disorder, Social Anxiety Disorder, or Panic Disorder?
- Does the individual have depressive symptoms? Do these symptoms meet criteria for a depressive disorder?

Regarding Externalizing Behaviours and Disorders

- Does the individual exhibit noncompliant and disruptive behaviours?
- Is the individual often truant from school?
- Does the individual exhibit serious conduct problems such as aggression, persistent lying, or stealing?
- In what contexts do these behaviours occur? How are they reinforced?
- Do these problems meet criteria for a diagnosis of Oppositional Defiant Disorder, Conduct Disorder, or Antisocial Personality Disorder?

Regarding Resilience

- What are the areas of relative strength that may foster resilience for the individual?
- Are there positive strategies to support good mental health that can be highlighted?

<u>Step 8</u>: Develop a formulation and diagnostic statement in accordance with the above criteria for a diagnosis of LD.

Key Points for Consideration

For a diagnosis of a Learning Disability to be given, it is necessary and sufficient to meet the five criteria listed in the consensus statement. Valid data are needed as evidence in support of each criterion. However, the process of diagnosing is more complex than simply providing scores and cut-off points on standardized tests. While these serve as a guide, scores must be interpreted through clinical judgment using multiple sources of information. Behavioural observations, interviews, and the individual's pattern of test results all inform the formulation.

As recommended in the DSM-5, it is important to determine whether the individual's "learning difficulties are not better accounted for by intellectual disabilities, uncorrected visual or auditory acuity, other mental or neurological disorders, psychosocial adversity, lack of proficiency in the language of academic instruction, or inadequate educational instruction" (American Psychiatric Association, 2013, p. 67).

Rule in or out any comorbid or co-occurring condition as the primary cause of the individual's academic difficulties keeping in mind the following:

- While the DSM-5 recommends a cut-off standard score of 65 to 75 at most for Intellectual Disability diagnoses, the lower cut-off for average thinking and reasoning utilized in this Consensus Statement is 1 S.D. below the mean (i.e., ≥ 85). Those individuals whose scores on tests of thinking and reasoning fall in the Borderline range, or even at the lower limits of the broad Average range, may require various types of accommodations and interventions. Use clinical judgment and provide justification if scores below the cut-off are used to diagnose LD.
- Individuals who do not speak English or French at home may have ongoing lags in their development of academic vocabulary and reading comprehension skills, but do not have ongoing difficulty with word level reading skills. If they have difficulties in phonological processing and word reading skills, in spite of appropriate intervention, it may be appropriate to diagnose LD (Geva & Wiener, 2015).
- Psychosocial adversity including poverty, homelessness, family violence and neglect, traumatic experiences such as witnessing war violence, or food insecurity may contribute to the learning difficulties of the individual.
- Inadequate educational instruction including interrupted or inconsistent schooling, and changes in educational jurisdiction that have different age/grade cut-offs and curricula may partially or fully account for low scores on standardized achievement and intelligence tests.
- Individuals who transfer from a French immersion program to an English program or vice versa may miss the opportunity to learn critical concepts in the language of instruction.

Step 9: Identify the types of evidence-based and realistic supports and interventions that are required.

Key Points for Consideration

A major purpose of an assessment and diagnosis is to provide targeted and appropriate supports and intervention. Recommendations should be made for various stakeholders to implement, including the individual being assessed, parents or caregivers, educators, employers, and health practitioners. Recommendations for intervention are most likely to be comprehended and implemented when the recommendations are **S**pecific and clear, **M**easurable, **A**pplicable to the individual's needs, **R**ealistic to implement in the context, **T**imely, and **S**upported by research (SMARTS).

It is beyond our scope to provide a comprehensive discussion of interventions for children, adolescents and adults with LD in the full range of educational, mental health, and workplace contexts. It is, however, essential that psychology practitioners recommend appropriate interventions and accommodations such as:

- evidence-based remedial interventions to develop skills in reading, writing, and mathematics;
- instructional, environmental, and assessment accommodations including assistive technology to enable students to access the curriculum;
- strategies to develop organizational, time management and planning skills;

- classroom and home strategies for behaviour management;
- methods for facilitating social interaction;
- treatment for oppositional and conduct problems and mental health difficulties;
- parenting strategies;
- supports available through workplace settings;
- additional assessments and treatments.

Write recommendations in a manner that guides supports and interventions and the Individual Education Plan (IEP) of students in the elementary and secondary grades. When appropriate, indicate factors individuals could take into account when selecting a career, as recommended in *Supporting Transitions for Students with Special Education Needs* (PPM 156; Ontario Ministry of Education, 2013).

Write recommendations for adults in workplace settings that take account of the essential skills required for the individual's specific job, potential accommodations for employment advancement criteria (e.g., upgrading tests, exams or other such requirements), assistive technologies where required in order to access or produce written materials, contract demands (e.g., requirement for second-language training) and other such workplace-specific issues.

***Step 10*: Communicate the results of the assessment, the diagnosis and recommendations.**

Key Points for Consideration

The results of assessment, the diagnosis and recommendations must then be communicated effectively to the individual or his or her personal representative both in interviews and written reports.

In Ontario, communicating a diagnosis is a controlled act under the Regulated Health Professions Act (1991). The controlled act of diagnosis is defined as: *Communicating to the individual or his or her personal representative a diagnosis identifying a disease or disorder as the cause of symptoms of the individual in circumstances in which it is reasonably foreseeable that the individual or his or her personal representative will rely on the diagnosis.*

A diagnosis may be communicated only by appropriately qualified members of the College of Psychologists of Ontario and the College of Physicians and Surgeons of Ontario. Not all persons who actually perform the assessment may be a member of these professions (e.g., teacher, psychometrist, Speech-Language Pathologist). Their communications may not link an individual's problems in daily functioning or test results to any disorder, such as a Learning Disability. The formulation and communication of a diagnosis is different from the identification of an individual as Exceptional under the Education Act in Ontario (1990). An identification as Exceptional under the Education Act may be made only by the Identification, Placement and Review Committee at the school district. This distinction could be misunderstood since the term "Learning Disability" is both a diagnosis and a learning disorder defined by the Exceptionality categories and definitions.

The communication of the diagnosis is made to the individual and/or a personal representative (e.g., parent or guardian). Then, with consent, the report may be shared with appropriate stakeholders for the individual to access services in schools, colleges and universities, the workplace, and mental health, funding and other support agencies. The report would then be read by caregivers, educators, health professionals, insurance companies, special needs departments in colleges or universities, parole boards, workplace managers, training program coordinators and others who have influence over

access to a range of supports. Obtain informed consent prior to disclosing a diagnosis and assessment report to anyone other than the individual or the designated personal representative.

When communicating assessment results in interviews:

- Invite questions and comments and provide opportunities for input;
- Address the issues that the individual or family wants to know about;
- Use vocabulary that the listener will understand. Avoid technical or statistical terms (jargon);
- Keep explanations succinct and to the point, referring back to the questions that individuals and their families have and the concepts and situations they know;
- Discuss tasks that were used in the assessment if they will help with understanding;
- Use both verbal and visual representations of concepts, depending on the optimal modality for the client;
- Summarize key points that are relevant to what needs to be addressed following the assessment.
- Adjust communication to various cultural beliefs and expectations (see FAQ 3);
- When communicating through an interpreter, explain the results and diagnosis in language that is easily interpreted and understood.

When communicating assessment results in reports:

- Write a report that can be understood by a range of readers, including those with Learning Disabilities, and that addresses the information that the individual, the family, educators, and others reading the report will find helpful. Take into account levels of education and English or French language proficiency of individuals and their families.
- Incorporate information gleaned from individuals and their families at the face-to-face meeting into the report. Since they have lived with the Learning Disability, they provide important information that helps everyone make sense of the results.
- Organize the report by functional domain (e.g., evidence of academic impairment and developmental, health, educational, or contextual factors that are risk factors for LD; academic achievement; abilities essential for thinking and reasoning; psychological processes; social, emotional and behavioural functioning) integrating information from observations, interviews, and test performance. The domains should be consistent with the referral questions and could be phrased as questions in headings, with answers following. This description of strengths and needs should be followed by recommendations for remediation, compensation, modification, and accommodation in home, educational, workplace and other settings and when appropriate, recommendations for treatment.
- Include a summary with the diagnostic formulation in accordance with the five criteria for a Learning Disability diagnosis in the consensus statement.
- As the majority of potential readers are not statisticians or other psychologists, resist reporting every test score, statistical significance, standard error of measurement, etc. A report that states the test results in words, charts, tables and numbers may overwhelm most readers. Attach technical details in a table of test results that includes standard scores, ranges and/or percentile scores, and perhaps a one-line description of tests for more interested readers.
- Write a brief conclusion that is easy for the individual and others reading the report to understand and remember (see Wiener & Costaris, 2012 for review of research).

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Frequently Asked Questions (FAQ)

Index of Questions

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1. Why has the ability-achievement discrepancy criterion for diagnosis of LD been discredited?[1]

Discrepancy between ability as measured on IQ tests and achievement has often been used by psychologists as the main criterion in the diagnosis of a Learning Disability. However, the problems with this criterion have been the subject of considerable research which has been summarized in several reviews of the literature (e.g. Cotton et al., 2005; Dennis et al., 2009; Fletcher et al., 2013; Harrison & Holmes, 2012; Tannock, 2013). As reported in these reviews, the ability-achievement discrepancy criterion has been discredited and is not consistent with best practices for the following reasons:

- Due to the normal variability in test scores in typically developing children and adults, individuals with an ability-achievement discrepancy often score in the average or above average range on all areas of achievement (Binder et al., 2009; Brooks et al., 2009; Brooks, 2011; Fletcher et al., 2005).
- There are serious psychometric problems, including measurement error, regression to the mean, and low classification stability (Cotton et al., 2005). For example, more than 30% of students with a significant ability-achievement discrepancy in Grade 3 no longer showed this discrepancy in Grade 5 (Francis et al., 2005);
- Meta-analyses have shown that individuals with significant ability-achievement discrepancies tend to have higher scores on those verbal and nonverbal tasks that are typically measured on IQ tests than do those individuals who do not have such a discrepancy. There are, however, no significant differences in reading, phonological processing, academic achievement, internalizing behaviour, and externalizing behaviour between poor readers with and without an ability-achievement discrepancy (Hoskyn & Swanson, 2000; Stuebing et al., 2012);
- Ability-achievement discrepancy is not a strong predictor of impairment (B. J. Lovett et al., 2009; Sparks & B. J. Lovett, 2009);

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[1] Please see references in the general References section on page 21.

- There are no differences in prognosis for improvement in reading skills between individuals with or without a significant ability-achievement discrepancy (Share et al., 1989; Flowers et al., 2001; Vellutino et al., 2000);
- There are no differences between individuals with or without an ability-achievement discrepancy on functional MRI (Tanaka et al., 2011);
- Twin studies examining heritability of ability-achievement discrepancy are inconclusive (Pennington et al. 1992; Wadsworth et al. 2000).

2. Is there an optimal age to first screen for and diagnose LD?[2]

The age at which to first assess a child depends predominantly on the purpose of the assessment. Is it to screen for the risk of LD or to diagnose LD? Historically, assessments for considering diagnoses of LD were discouraged until grades three or four. Delaying would account for developmental and environmental variability in the early years, as well as for the lack of tools available to assess young children (see review by Vaughn & Fuchs, 2003). The practice of postponing assessments was also influenced by the now highly-discredited ability-achievement discrepancy criteria, and the reality that children had to be a certain age for such discrepancies to be documented (e.g. Francis et al., 2005; Stuebing et al., 2002). With advances in test construction, knowledge of early risk factors associated with LD, and expertise among clinicians in evaluating young children effectively, there have been many gains in our ability to assess neurocognitive development and learning during the early academic years (Baron & Anderson, 2012). While risk factors may be identified at earlier stages of development, once a child is receiving formal schooling, academic difficulties can be reliably assessed and diagnosis of LD may be considered.

Earlier assessment need not involve complex psychoeducational testing such as administration of IQ tests. It does involve effective screening of all children in kindergarten and grade one for early identification and to optimize access to early intervention (Fletcher & Vaughn, 2009; Vaughn & Fuchs, 2003). Those determined to be at risk, based on low early literacy (e.g., phonemic processing) and numeracy skills, are then provided with evidenced-based intervention in kindergarten and the early grades. Interventions are delivered in the regular classroom or in small groups. Many early intervention programs have well-documented success in kindergarten and the early grades, with a substantial reduction in the number of children later requiring long-term special education (Foorman & Al Otaiba, 2009; Lovett et al., 2000). Further, Lovett and her colleagues recently showed that reading intervention was best when implemented in grade one or two, compared to grade three. In addition, children with intervention during grade one continued to develop reading skills in later years at a faster rate relative to children who had intervention in grade two or three (Lovett et al., 2017).

However, some children will not benefit from such early intervention. They may require more intensive, systematic instruction, as well as compensatory learning strategies and accommodations. These children will require comprehensive psychoeducational assessment to inform the specific compensatory strategies and accommodations that are needed. The diagnosis of LD is reserved for children whose reading or other academic problems are severe and seemingly intractable following early intervention efforts in grade one or two (Lyon et al., 2001). However, if a child is struggling academically and has gone unidentified or unsupported during grade one, assessment to indicate the nature of difficulties to guide intervention is essential to emphasize and advocate for the child's needs. Waiting until the end of grade two misses an evidence-based window of opportunity for intervention and may reduce the effectiveness of future interventions.

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2 Please see references in the general References section on page 21.

There are also populations of children at disproportionate risk for learning challenges, such as children with early symptoms or diagnosis of ADHD, language disorders, or Autism Spectrum Disorder. They will benefit from early psychological assessments to inform academic and psychosocial intervention. Children with complex medical conditions (e.g. extreme prematurity, congenital heart disease), early brain injury (e.g. neonatal stroke, brain tumor, traumatic brain injury) or conditions such as epilepsy, all with well-documented learning comorbidities, will also benefit from early assessment with a focus on contributing to school-based support (Baron & Anderson, 2012).

3. What adaptations are required for assessments of Culturally and Linguistically Diverse (CLD) individuals experiencing learning difficulties?[3]

More than 25% of Ontario residents are first or second-generation immigrants or refugees, or identify as Indigenous (Statistics Canada, 2016). It is therefore important for Ontario psychologists to have the knowledge and skills required to conduct assessments with CLD individuals and to differentiate LD from language and cultural differences.

The response to this FAQ is in four parts: Cognitive, language and literacy skills; adapting to cultural and immigration factors; social, emotional and behavioural assessment; and specific considerations for individuals who identify as Indigenous. Geva and Wiener (2015) provide the rationale (including research conducted in Ontario) for the strategies described below.

Cognitive, Language, Literacy, and Math Skills:

Research on the development of language and literacy skills of First (L1) and Second (L2) Language Learners shows that L2 students who enter Ontario schools in the primary grades quickly develop word level reading skills, the cognitive processes underlying their word level reading are the same as L1 learners, oral language skills and reading comprehension typically do not reach the level of L1 learners six years post-immigration, and non-word repetition abilities predict oral language acquisition. IQ tests, including nonverbal tests, have high cultural and linguistic loading (Cormier et al. 2016; Geva & Wiener, 2015).

The following are implications of this research for assessment of CLD children and youth:

- Consider a diagnosis of LD in L2 individuals who have had two or more years of English or French reading instruction and have below average word-level reading and spelling skills.
- Examine the types of errors that individuals make on language and reading comprehension tests. Consider positive transfer (e.g., they may use words that are similar in their L1 to understand the L2), and negative transfer (they may apply grammatical structures that are correct in their L1 to their L2 when that is not appropriate).
- Compare the functioning of the individual with siblings or peers from the same context.
- Assess in the individual's first language when appropriate.
- Assess cognitive processes (phonological processing, RAN, and non-word repetition).
- Consider that if phonological processing scores are below average even after explicit instruction for one or more years in English or French, that this may represent a Learning Disability, rather than being due to ELL status alone.

[3] Please see references in the general References section on page 21.

- Determine whether errors are associated with instruction that differs from what is commonly taught in Canada (e.g., different symbols, terminology and procedures in math, inadequate knowledge of symbols and metaphors used by native speakers of English or French).
- Supplement standardized cognitive and achievement tests with response to intervention and dynamic assessment strategies.
- Carefully consider whether it is necessary to administer an IQ test and the timing of administration. Use a nonverbal test when appropriate and ensure that the individual understands the directions on nonverbal tasks.
- Use clinical judgment when interpreting scores, considering the verbal and cultural loading of the test and subtests, and examine scores on component scales and subtests for indications of average ability.

Adapting to Cultural and Immigration Factors:

Immigrants to Canada tend to have higher education levels than the Canadian population at large. Although most are resilient in spite of the stresses of adapting to a new language and culture, some struggle to adapt. Some immigrants may have assimilated into the dominant Canadian culture or may have integrated Canadian culture with their own culture, whereas others may not have adopted Canadian cultural norms even after several years. The following strategies are recommended for individuals and families who have struggled to learn English or French or have not adapted to Canadian culture.

Understanding the Family Context

- Learn about community history and current political and social issues.
- Think carefully about who the best informant might be.
- Spend time to create trust – confidentiality may be very important due to a heightened perception of stigma. Follow the lead of the individual and family members.
- Ask about immigration and language history, social supports in Canada, communication with family in the home country, and if relevant, experiences with violence that might have induced trauma.
- Some CLD individuals may give indirect or fragmented responses to questions about developmental, health, education and family history because in their culture they use narrative to communicate. Listen to and analyze their narrative.
- Select and prepare interpreters carefully and ask for their help with cultural interpretation.

Communicating the results of assessments

- Establish the individual and family's capacity for understanding the assessment results and adjust communication to that level.
- Because individuals may not have encountered the concept of LD or other mental health issues, and attribute their learning difficulties or those of their children to insufficient effort or an inadequate school system, strive to understand their attitudes and attributions for the learning difficulties. Explain LD and refer them to information written in their own language if possible.
- Use visuals and graphics to explain concepts.
- Provide a simple report summarizing strengths, weaknesses, and recommendations. Have the simple report translated into the L1 if possible.
- Access the services of an interpreter even when the individual or parents-caregivers have English or French basic communication skills.

Social, Emotional and Behavioural Assessment

Some of the typical ways psychologists assess social, emotional and behavioural functioning are problematic with many CLD individuals. Most standardized rating scales and diagnostic interviews have a high linguistic and cultural loading. CLD individuals may interpret items differently (e.g., in a culture where obedience is highly valued, normative levels of noncompliance might be seen as deviant). The following strategies are recommended:

- Use multiple sources (self- report, family- report, and teacher report) and methods (observations, interviewing, formal objective rating scales, and informal projective tests such as drawings and sentence completions).
- Use standardized rating scales written in the individual's or parent's L1 (e.g., The *Strengths and Difficulties Questionnaire* has been translated into 86 languages; Goodman, 2001; http://www.sdqinfo.com/).
- Consider acculturation effects.
- Analyze narratives provided by the individual and family members.
- Be sensitive to signs of anxiety, depression, PTSD, and other disorders that are associated with loneliness, trauma, and immigration struggles.

Specific Considerations for Individuals who Identify as Indigenous

There are three key issues that suggest that psychologists should adopt a critical perspective regarding assessment of individuals who identify as Indigenous.

- The educational attainment of Indigenous children and adults is lower than the Canadian population at large. Indigenous youth, however, are more likely to complete secondary and postsecondary education than their parents (Statistics Canada, 2011). Although there is considerable variability, with Indigenous children in urban settings and some rural communities having educational attainment and achievement levels similar to the Ontario population, in some remote northern Ontario communities, the high school graduation rates are low and the mean score of children on standardized language and literacy tests is approximately one standard deviation below the mean of the normative population (Cunningham, 2018). Possible reasons include test bias, federal schools on reserves having lower per-pupil funding than Ontario schools resulting in frequent teacher turn-over and inadequate and interrupted instruction, trauma and intergenerational trauma due to the history of oppression and cultural genocide, and mental health difficulties that are typically untreated because of inadequate resources.
- As many Indigenous children were taken from their families for adoption by non-Indigenous families, a practice that continued for many years (60's scoop), parents may be wary that psychologists may take their children away.
- Many Indigenous individuals do not ascribe to the medical model of assessment and diagnosis (e.g., Kirmayer, et al. 2011; Kirmayer et al. 2014).

For the most part, the adaptations for psychological assessments and diagnosis of LD for CLD individuals in general pertain to the Indigenous population. Due to the above issues, the following are some specific additional strategies that may be appropriate in some contexts:

- Developing trust with individuals and families may include developing trust with community leaders with specific reference to elders.
- Be clear that your role is to help individuals or their children with academic learning and mental health.
- Depending on the individual and the context, it may be very challenging to diagnose LD, and the diagnosis may not be required to provide intervention. Decide whether it would be useful

to give a diagnosis, or whether the focus should be on describing the learning profile and providing recommendations for intervention.
- In some communities it might be more appropriate to emphasize language, literacy and numeracy development for all community members rather than diagnosing LD in individuals. When it is necessary to diagnose, a lower cut-off than an academic achievement standard score of 85 may be needed.

4. What is the position of the College of Psychologists of Ontario with regard to this approach to assessment and diagnosis of LD? Are we not obliged to follow DSM-5?[4]

The College does not recommend or endorse specific approaches to assessment or diagnosis of LD. Members are, however, required to abide by those standards of practice that apply directly to the approach outlined in this current document. Specifically, Section 10 of the College of Psychologists of Ontario's *Standards of Professional Conduct (2017)* focuses on Assessment and Intervention. While the whole section is important, the following three subsections are particularly relevant in the context of LD.

- **10.3 Rendering Opinions**
  A member must render only those professional opinions that are based on current, reliable, adequate, and appropriate information.

This speaks to the need to utilize up-to-date, valid and reliable assessment instruments and techniques that provide appropriate data to support the various criteria leading to a diagnosis.

- **10.4 Identification of Limits of Certainty**
  A member must identify limits to the certainty with which diagnoses, opinions, or predictions can be made about individuals or groups.

It is important to remember that the vast majority of recipients of an oral and written feedback do not have a background in statistics. While it is sometimes appropriate to provide standard error of measurement or similar data in a table of results, it is not necessary to go into detail in the body of a discussion or report. Rather, it is important to be able to justify the conclusions drawn from the data with a degree of confidence that is based on the statistical level of certainty.

- **10.6 Clarity of Communication**
  A member must make best efforts to present information in a manner that is likely to be understood by the client.

This issue is dealt with at length in Step 10.

It is, of course, necessary for psychology practitioners to ensure that they are practising within their declared areas(s) of competence and with given populations of clients. Competence in Assessment and Diagnosis is required in order to become registered within the Province of Ontario. Within that competence, there is still a need to be familiar with the body of knowledge, skills and assessment instruments that underpin the ability to assess and diagnose LD, along with an understanding of the types of evidence-based interventions that can address them.

The approach to assessment and diagnosis outlined in this document does not contradict DSM-5. Rather, it incorporates and goes beyond the four essential features to gather information on

[4] Please see references in the general References section on page 21.

various information processing areas that have been directly linked to LD, which can guide more focused interventions based on an individual's pattern of specific strengths and weaknesses.

5. What issues should be considered when diagnosing LD in individuals with very superior intellectual ability?[5]

There is considerable evidence that individuals with well above average intelligence often have areas of strengths and weaknesses in major areas of academic functioning and psychological processing (Maddocks, in press). For example, Maddocks found that very high proportions of individuals with an IQ ≥ 130 would be diagnosed as LD if only ability-achievement discrepancy criteria are used, without consideration of academic impairment. Using criteria A and B in the Consensus Statement is supported, however, indicating that LD should only be diagnosed in the presence of a history of academic difficulties and below average academic achievement. Furthermore, discrepancies among processing abilities, while important, often reflect normal variability (Flanagan & Alfonso, 2011).

6. What adaptations should be made in assessments and diagnosis of LD for children who attend French immersion programs?

This FAQ addresses three issues: 1) Research on French and English academic achievement of children who attend French immersion programs and the risk factors for learning difficulties of children who participate in French immersion programs; 2) specific implications of this research for assessment and diagnosis of LD; and 3) the factors to consider in determining whether students who are struggling in French immersion programs should be transferred to the regular English program.

Relevant Research Findings

English Academic Achievement

Once formal English instruction is introduced, which varies by grade level depending on the school district, there is no difference in English reading fluency and comprehension and mathematics achievement between students educated in French immersion and regular English programs, controlling for socio-economic status (SES). Prior to the introduction of formal instruction in English, students in French immersion obtain lower scores on English reading fluency and comprehension tests (see Genesee & Jared, 2008 for review).

- A higher proportion of early French immersion students in Ontario performed at or exceeded grade level expectations (levels 3 and 4) on the grade 6 EQAO tests in reading, writing and math than students in regular English programs (Lapkin, Hart & Turnbull, 2003). SES was not controlled in this study. The investigators also did not account for the likelihood that students who were struggling in French immersion might have withdrawn from the program by the time they were in grade 6.
- The English reading and writing scores of students in French immersion programs on the grade 3 EQAO tests were positively correlated with number of hours of English instruction they received prior to the test (which varied by school district). Students who had not received formal English instruction at the time of the test, not surprisingly, scored lower than

[5] Please see references in the general References section on page 21.

students in full-time English programs. Students in French immersion who began English instruction in grade 3 or earlier, however, had higher EQAO reading scores than students in full-time English programs (Turnbull, Lapkin & Hart, 2001). The researchers did not control for SES or account for the likelihood that some students struggling in French immersion might have withdrawn from the program prior to taking the test.

- At the end of grade 1, English Language Learners (ELLs) in French immersion programs in Ontario have similar academic achievement on English phonological awareness and word reading tasks as students for whom English is their first language (EL1). The English receptive vocabulary of ELLs, however, was not as developed as EL1s and their lower receptive vocabulary in English persisted through grade 3. English reading comprehension was not assessed in grade 1. In grades 2 and 3, however, ELLs and EL1s did not differ in English reading comprehension and they had similar trajectories in the development of phonological awareness and word reading skills between grades 1 and grade 3 (Au-Yeung et al. 2014).

French Academic Achievement

- French reading comprehension of Anglophone children in early French immersion programs in Montreal (where they were more likely to be exposed to French outside of school than in most other parts of Canada) did not differ from Francophone students (see Genesee & Jared, 2008, for review).
- In a study conducted in Montreal, Anglophone students in a two-year French immersion program beginning in grade 7 obtained French academic achievement scores equivalent to that of students in early immersion (Genesee, 1981). The investigators did not examine whether higher achieving students were more likely to enter the late immersion program.
- ELL and EL1 students in early French immersion programs did not differ in their French phonological awareness, word reading, receptive and expressive vocabulary, and reading comprehension in grades 1, 2, and 3 (Au-Yeung et al. 2014).

Risk Factors

- In general, risk factors for low reading achievement in kindergarten are the same for French immersion programs and English programs. These include low nonverbal IQ and English vocabulary, and difficulties with sentence repetition, phonological awareness, morphological awareness, rapid automatized naming, letter recognition, word recognition, pseudoword reading, and non-word repetition (D'Angelo & Chen, 2017; Erdos, Genesee, Savage & Haigh, 2014; Koh, Shakory, Chen, & Deacon, 2017; Lam & Chen, 2018; Lee & Chen, 2018). Difficulties in these areas when assessed in English predict French reading fluency and comprehension and vice versa.
- Bruck (1985) compared students (grades 2 to 4) with learning difficulties in Montreal who transferred from a French immersion program to those who remained in the French immersion program (Bruck, 1985). There were no differences initially or over time in the level of difficulties in reading, writing and math between children who remained in or transferred out of French immersion programs. Parents of children who transferred from French immersion to an English program, however, were more likely to believe that their children were doing better in school than students with learning difficulties who remained in the program. Although the children with learning difficulties who remained in French immersion programs initially had similarly high levels of inattention, hyperactivity and impulsivity according to teacher ratings on the *Conners Rating Scales*, children who

transferred from French immersion programs tended to have reductions in teacher-rated inattention after they transferred (Bruck, 1985).
- None of the studies explicitly indicated whether any of the participants were diagnosed with LD or any other disorder.

Implications for Assessment and Diagnosis of LD

- The criteria for diagnosis of LD and the recommended steps stated in the guidelines apply to students in French immersion.
- As indicated in the response to FAQ3 regarding optimal age to first screen for or diagnose LD, screening of risk factors (see above) can be done in kindergarten and a full psychological assessment for children experiencing difficulties acquiring reading and numeracy skills may be helpful by the end of grade 1; a diagnosis of LD, if appropriate, can be given at that time.
- Assessments of learning difficulties for students in French immersion programs should mainly be conducted in English (unless French is the student's first language). These assessments should include tests of thinking and reasoning, non-word repetition, sentence repetition, phonological awareness, and rapid automatized naming as these processes predict reading fluency, reading comprehension and spelling in both French and English. Depending on the reason for referral, it may also be appropriate to give memory and visual-motor integration tests, and to assess ADHD symptoms.
- In addition to administering an individual standardized academic achievement test in English, it is generally helpful to administer an achievement test in French. This is especially necessary for students who have not yet had formal instruction in English reading and writing, which varies depending on school board policy. For those students who have had formal instruction in English reading and writing, it is still important to examine reading and writing in French using formal or informal measures in order to do the types of error analyses indicated in Step 3 of the guidelines and to develop recommendations for intervention.
- Assessing academic achievement in French can be challenging due to the paucity of standardized norm-referenced measures and because none of the existing tests in French are normed on children in French immersion programs. It is likely inappropriate to use measures that have norms on children living in France. Although there are no norms for students in French immersion, the WIAT-II has Quebec norms and is likely the best option at present. There are two other tests that are currently being developed. The IDAPEL is a French version of the DIBELS developed in Canada that is available for research purposes (https://acadiencelearning.org/idapel.html). L'Échelle Francophone d'Appréciation du Rendement (EFAR) was developed in British Columbia. More information is available at http://www.efar.ca/.
- When psychology practitioners do not themselves have the French-language proficiency required to assess academic achievement in French, they should consider alternatives to doing this part of the assessment themselves. Psychology practitioners who work in schools, and others when appropriate and parental consent is given, could work with the French immersion classroom teacher and/or the special education teacher as a team to ensure that academic achievement in French is assessed competently. It may be helpful to compare the referred student's French academic achievement to others in the same classroom as well as to their achievement in English. Appropriately trained special education teachers can administer the WIAT-II, the IDAPEL or the EFAR. In addition, the GB+, a levelled literacy program which regular education French immersion teachers in some Ontario school districts are using, has embedded assessment materials that may

provide useful information (https://www.cheneliere.ca/FTP/GB_Demo/gbplus/trousse.html). When it is not appropriate to work as a team with French immersion or special education teachers, psychology practitioners who do not speak adequate French for this purpose should collaborate with or employ a psychology practitioner who speaks French to do this part of the assessment or refer the child to another French-speaking psychology practitioner.

- Given that there are no norms on French achievement tests for students in French immersion programs, and that children in French immersion programs in grades 1 to 3 who have not been exposed to formal instruction in English have lower scores on English achievement tests, clinical judgment may be necessary for interpreting academic achievement test data.

Implications for Placement Recommendations

The decision as to whether children with LD should transfer out of French immersion is difficult and there is very little research on which to base the decision. The one study that investigated this question (Bruck, 1985) suggests that students with high levels of inattention may be less symptomatic in regular English programs. Nevertheless, the question of moving from French immersion is one that is frequently part of the reason for referral. At this time, the following are factors we suggest that psychology practitioners consider:

- The relative performance in English versus French classes if the student is receiving instruction in both languages
- The setting in which the student is most likely to receive high quality instruction
- The extent to which special education support is available in French
- Whether parents speak sufficient French to provide support in French
- Student attitudes regarding remaining in French immersion versus transferring to an English program. Some students may feel more comfortable learning in their first language whereas others might have negative feelings about a transfer. They may be concerned about the stigma associated with a transfer, changing schools, and losing contact with friends.
- Parent attitudes regarding remaining in French immersion versus transferring to an English program.

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7. What is Dyslexia?

Individuals seeking an assessment for reading difficulties have often heard the term dyslexia and ask whether their challenges with reading may be due to dyslexia. They ask this question because the term "dyslexia" is often used instead of learning disabilities, is commonly used in international research and practice (e.g., is a diagnostic code in ICD-10 and is included in the classification for Developmental Disorders with Impairment in Reading in ICD-11), and there are many Internet sites that provide information about it. For the reasons discussed below, when appropriate, psychology practitioners could use the term dyslexia in addition to learning disabilities when providing a diagnostic formulation according to the OPA Guidelines.
The following is the definition of dyslexia according to the International Dyslexia Association (2002):

> "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." https://dyslexiaida.org/definition-of-dyslexia/

This definition states that dyslexia is a specific subset of learning disabilities in reading. The criteria for diagnosis of LD stipulated in the OPA Guidelines are consistent with this definition. The OPA Guidelines, however, also include other types of LD (e.g., an individual may have below average functioning in reading comprehension, mathematics or written expression but have average word level reading and spelling skills) that would not fall under the above definition of dyslexia. Furthermore, the term dyslexia is not used by the Ministry of Education in Ontario, or in many other sectors where access to intervention or accommodations may be important for the individual. Nevertheless, some individuals with LD may wonder whether they have dyslexia and, when appropriate, may find this diagnosis to be helpful because of the resources available to them in books or on websites (e.g., webinars and information fact sheets https://dyslexiaida.org/fact-sheets/ provided by the International Dyslexia Association).

When individuals meet the criteria for LD in the OPA Guidelines and have difficulties with word and pseudo-word reading and phonological or orthographic processing an additional diagnosis of dyslexia might be made. Children with dyslexia typically have difficulty with accurate reading of words and pseudo-words as well as reading fluency and spelling, whereas adolescents and adults who have received appropriate remediation may read the words accurately but typically have subtle difficulties with phonological processing, reading fluency, and spelling (see Saletta, 2018, for review).

The term dyslexia is sometimes inappropriately used to describe people who do not have word-level reading problems. Although individuals with dyslexia typically have difficulties with text-level reading comprehension as well as word-level reading, some individuals are competent at reading individual words but still have difficulties with reading comprehension that are associated with a language disorder or English being their second language (Fletcher, Lyon, Fuchs & Barnes, 2019; Geva & Wiener, 2015). Although they may have a learning disability, their problems are not consistent with the above definition of dyslexia.

Dyslexia (or word-level reading disabilities) is arguably the most highly researched type of LD including research on the neurological basis, genetic basis, assessment and intervention (see Fletcher et al. 2019; Kilpatrick, 2015, for reviews). Between 3% and 7% of the population meet criteria for this diagnosis depending on the cut-off used for below average achievement in word-level reading. Dyslexia more often occurs in males than females, persists into adulthood, has moderate to high heritability, and involves both brain structure and function. The association between phonological processing (including morphological processing and rapid automatized naming) and reading difficulties is well established; other cognitive processes (e.g., visual perceptual deficits) have not been supported as being related to dyslexia. In addition to language comprehension, word-level reading accuracy and fluency are associated with reading comprehension. As indicated by Kilpatrick (2015), this research suggests that when individuals obtain below average scores on tests of word identification, pseudo-word reading or reading fluency, psychology practitioners should administer tests of phonological processing that include phonemic awareness, phonological memory, orthographic processing, and rapid automatized naming.

Considerable research has pointed to the key components of intervention for dyslexia (Fletcher et al. 2019). There is considerable evidence that good Tier 1 literacy programs prevent reading problems in most children and reduce the number of children who would require an assessment and remedial interventions for reading disabilities. Early intervention has been found to be very

important because remediation after the primary grades must be intense and fluency is reduced. Intervention should be done in the context of a reading program that includes recognition of common sight words, spelling, reading fluency, vocabulary, and reading comprehension.

Explicit teaching of phonemic awareness, phonics, morphology, and units of orthography in reading and spelling is very important.

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8. What is a Non-verbal Learning Disability (NLD)?

Brief History: Non-verbal Learning Disability (NLD) is a complex and debated diagnosis. The term nonverbal learning disability (NLD) was coined by Dr. Byron Rourke in the early 1980s. He was studying children with profound math learning disabilities who also demonstrated other perceptual, motor, and social skills deficits. Rourke contended that NLD deficits could be attributed to white matter disease or dysfunction (1987; 1995), and presented much data to this effect in his book (1989).

Critique Summary: There have been critical reviews on the topic, questioning the evidence for the disorder in of itself (see Fine, Semrud-Clikeman, Bledsoe,& Musielak, 2013; Spreen, 2011). One of the main concerns has been its lack of specificity, as it has been applied as an umbrella term covering different pediatric disorders, including ASD, math disorder, developmental coordination disorder, Turner syndrome, velo-cardio-facial syndrome, callosal agenesis, and other neurological conditions (Spreen, 2011; Pennington, 2009). Maureen Dennis (as quoted in Spreen, 2011) commented that *"the NLD umbrella includes practically every pediatric disorder, many of which have diametrically opposed features".* Other criticisms were the small samples and relative rarity of the NLD profile in independent studies outside of Rourke's lab (Dunham, Multon, & Koller, 1999; Spreen & Haaf, 1986; Hendriksen et al., 2007). Further, the white matter etiology hypothesis has largely been discredited for nonspecificity and lack of evidence from any imaging study to date. Finally, and perhaps most importantly, there has yet to be convincing clinical evidence of utility of the NLD label beyond treatment for math difficulties.

Implications for Ontario: In the context of the updated consensus document regarding LD in Ontario, reviewing the complexity of this issue is warranted. NLD is potentially over-identified

based on discrepancies between estimates of verbal and nonverbal IQ test scores alone (i.e., solely on a verbal – visual-spatial/performance split in IQ scores) without understanding that a discrepancy alone is not diagnostic and in fact is common in certain populations (e.g., Binder et al., 2009). Even more problematic is that it is often identified in the absence of an identified academic area of challenge. In addition, highly specialized tests are recommended when considering NLD (see Casey, 2012)[i6] that are often beyond the scope and practice of school psychologists (i.e., tests of tactile perception, astereognosis, grip strength).
Challenges in mathematics, reading comprehension and social communication skills were historically associated with individuals given the NLD diagnosis. In the context of the updated consensus regarding LD, we advise clinicians to carefully consider the child's academic history and test profile and make a learning disability diagnosis if impairments in specific academic skills are identified. They may then additionally determine whether observed social-communication deficits warrant additional diagnostic consideration in this domain (for instance, Autism Spectrum Disorder). This will allow for the better understanding of the individual's specific needs and guide intervention and treatment.

Key practice take-homes:

NLD is a complex and controversial diagnosis. It is essential that psychology practitioners be familiar with the NLD theory and its critique before choosing to make this diagnosis. This diagnosis cannot be made based solely on a Verbal>Performance discrepancy or deficient math skills (***see endnote for NLD diagnostic criteria proposed by Casey, 2012)***.

All learning disability diagnoses should emphasize the area of academic underachievement and be made using the criteria referenced in the OPA Guidelines for Assessment and Diagnosis of Learning Disabilities.

If math skills are a weakness, (i.e., consistent with the LD criteria, below 16th percentile), consider whether a diagnosis of a Learning Disability in the area of math would more accurately

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[6] Casey (2012) outlined the following criteria based on research to date, in order of significance, for diagnosis of NLD:

1. Tactile perceptual tests (with less than 2 errors on simple tactile perception) and astereognosis composite greater than 1 SD below the mean; (meaning below the 16th percentile)
2. Target test at least one SD below the mean;
3. Two of vocabulary, similarities, and information on the WISC/WAIS are the highest verbal scales
4. Two of WISC/WAIS block design, object assembly, and coding subtests are the lowest of the performance scales;
5. Standard score for word reading on and achievement test such as the WRAT is at least eight scaled score points greater than basic arithmetic (with arithmetic being impaired relative to most other individuals);
6. Tactual performance test: right, left, and both hand times become progressively worse vis-à-vis the norm;
7. Grip strength is within one standard deviation of the mean or above compared to Grooved Pegboard test performance, which is one standard deviation below the mean;
8. WISC/WAIS VIQ>PIQ by at least 10 points.

As summarized by Casey (2012), positive findings for **all of points one through five** are needed to confirm the diagnosis of NLD. Seven or eight of these features (in total), ***including impaired arithmetic performance***, would also support a definitive diagnosis of NLD, whereas five or six of these features are associated with probable NLD. Three or four of these features are questionable in making the diagnosis, and positive findings on only one or two suggest low probability of diagnosis.

describe the condition and allow for more targeted and appropriate intervention and support. If social and/or communication challenges are also observed/reported, consider additional diagnoses in this other domain (such as Autism Spectrum Disorder and Social Pragmatic Communication Disorder).

9. What are some guidelines for recommending memory aids as an academic accommodation in post-secondary education?

Please find guidelines by the Regional Assessment and Resource Centre here:

https://www.queensu.ca/rarc/resources/memory-aid-guidelines-summary

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Addendum

Since the Guidelines were last updated in March 2020, the Ontario Human Rights Commission released the report of the Right to Read Enquiry (January 2022).

Recommendation 116 of the Right to Read report explicitly refers to the OPA Guidelines.

Recommendation 116: The Ontario Psychological Association's Guidelines for Diagnosis and Assessment of Learning Disabilities and the Association of Psychology Leaders in Ontario Schools Recommended Guidelines for the Diagnosis of Children with Learning Disabilities should also be updated to make the assessment guidelines for dyslexia/learning disabilities in word reading consistent with current DSM-5 requirements, including by removing the requirement for at least average intelligence (or at least average abilities for thinking and reasoning) or a discrepancy/inconsistency between intellectual abilities and achievement. They should recommend limiting or eliminating the routine use of routine intelligence and cognitive processing tests for assessing students for word-reading disabilities/dyslexia.

The Cross-Sectoral Psychology Working Group on Learning Disabilities, who created the OPA guidelines has these responses:

1. The OPA Guidelines do not include a discrepancy/inconsistency between intellectual abilities and academic achievement as a criterion for diagnosis of LD, as is explicitly addressed in FAQ 1 that summarizes the pertinent research.
2. The DSM-5 requires ruling out the presence of an intellectual ability for a diagnosis of a Specific Learning Disorder (DSM-5-TR, 2022). If established using measures of intelligence (IQ tests), normal intellectual functioning is an IQ score >70 (+5), as indicated in the description of diagnostic features in the DSM-5-TR manual (p. 79). If considered using measures of intelligence (IQ tests), the OPA Guidelines define "average abilities essential for thinking and reasoning" as an IQ score on an appropriate scale for the individua tested, to be within one standard deviation from the mean (≥ 85; step 5) and provide the qualification that psychology professionals should use clinical judgment and contextual information to interpret any scores that fall outside of this range in the context of an assessment (see step 5). It is important to note that both the DSM-5 and OPA sets of criteria include a history of academic impairment and below average academic achievement in reading, writing or mathematics. Both sets of criteria also indicate that the learning difficulty cannot be accounted for primarily by environmental factors (e.g., psychosocial adversity, cultural or linguistic diversity, lack of adequate instruction/teaching), or a diagnosis of other conditions or disorders including intellectual disabilities. While the use of cognitive testing remains a point of difference between these two sets of criteria, one for Specific Learning Disorder and the other for Learning Disability, this difference does not preclude implementation of any of the key recommendations from the Right to Read report or the OPA Guidelines.
3. Psychology professionals have extensive training in assessment that enables them to select the appropriate method or tool to address referral questions. Psychologists are required to collect all information that is necessary to answer the referral question, and otherwise would be in contravention of Professional Misconduct Regulation (Re/ 801/93); and the Standards of Professional Conduct of the College of Psychologists (Standard 10.3 and 10.4). Psychologists need to address the full referral question by choosing the appropriate methods/measures based on the characteristics of each person they assess individually, and this will result in the best and most equitable service for all individuals.

4. Psychological assessments augment the information available to best understand and plan to serve the academic, social and emotional needs of individuals. The information in the Steps for Assessment and Diagnosis of LD: Key Points and Guiding Questions and the Frequently Asked Questions of the Guidelines are applicable whether psychology professionals use the DSM-5-TR criteria for diagnosis of Specific Learning Disorder or the criteria listed in the OPA Guidelines for a Learning Disability. However, the absence of a psychological assessment should not be a barrier to accessing support or services.
5. Psychology professionals working in the school context should consult with educators regarding the implementation of the recommendations in the Right to Read Report regarding reading curriculum, early screening and intervention, and accommodations.