LEARNING DISABILITIES ASSOCIATION OF ONTARIO

Recommended Practices For Assessment, Diagnosis and Documentation of Learning Disabilities

Diagnosis of Learning Disabilities

Accurate diagnosis of learning disabilities is necessary in order to distinguish this disorder from other potential causes of the presenting symptoms or problems. It is also necessary to document the individual's strengths and to identify needs that result from impairments in specific psychological processes. Accurate diagnosis is fundamental to the development of specialized interventions at home, school, community, and workplace settings.

In view of the biological/neuropsychological nature of the disability, the formulation and communication of a diagnosis of learning disabilities is a complex process that requires professional training and skill. Professionals from a variety of disciplines (e.g., psychology, education, speech-language pathology, occupational therapy, medicine, audiology, etc.) play a significant role in identifying "at risk" individuals and in contributing to the evaluation, as well as to the development and implementation of a range of interventions. In Ontario, however, the communication of a diagnosis is controlled under the Regulated Health Professions Act, and may be performed only by appropriately qualified members of the College of Psychologists and the College of Physicians and Surgeons.

LDAO Definition of Learning Disabilities, 2001

"Learning Disabilities" refers to a variety of disorders that affect the acquisition, retention, understanding, organization or use of verbal and/or non-verbal information. These disorders result from impairments in one or more psychological processes related to learning [a], in combination with otherwise average abilities essential for thinking and reasoning. Learning disabilities are specific not global impairments and as such are distinct from intellectual disabilities.

Learning disabilities range in severity and invariably interfere with the acquisition and use of one or more of the following important skills:

- oral language (e.g., listening, speaking, understanding)
- reading (e.g., decoding, comprehension)
- written language (e.g., spelling, written expression)
- mathematics (e.g., computation, problem solving)

Learning disabilities may also cause difficulties with organizational skills, social perception and social interaction.

The impairments are generally life-long. However, their effects may be expressed differently over time, depending on the match between the demands of the environment and the individual's characteristics. Some impairments may be noted during the pre-school years, while others may not become evident until much later. During the school years, learning disabilities are suggested by unexpectedly low academic achievement or achievement that is sustainable only by extremely high levels of effort and support.

Learning disabilities are due to genetic, other congenital and/or acquired neuro-biological factors. They are not caused by factors such as cultural or language differences, inadequate or inappropriate instruction, socio-economic status or lack of motivation, although any one of these and other factors may compound the impact of learning disabilities. Frequently learning disabilities co-exist with other conditions, including attentional, behavioural and emotional disorders, sensory impairments or other medical conditions.

For success, persons with learning disabilities require specialized interventions in home, school, community and workplace settings, appropriate to their individual strengths and needs, including:

- specific skill instruction;
- the development of compensatory strategies;
- the development of self-advocacy skills;
- appropriate accommodations.

[a] The term **"psychological processes"** describes an evolving list of cognitive functions. To date, research has focused on functions such as:

- phonological processing;
- memory and attention;
- processing speed;
- language processing;
- perceptual-motor processing;
- visual-spatial processing;
- executive functions; (e.g., planning, monitoring and metacognitive abilities).

This definition is supported by a background document entitled ***Operationalizing the New Definition of Learning Disabilities for Utilization within Ontario's Educational System, LDAO, 2001.***

Diagnostic Criteria for Learning Disabilities

Consistent with the above definition, **all** of the following criteria must be met for a diagnosis of a learning disability to be made.

A A non-random, clinically significant discrepancy* between otherwise average abilities essential for thinking and reasoning, and one or more of the specific psychological processes related to learning.

B Academic achievement that is unexpectedly low relative to the individual's thinking and reasoning abilities OR academic achievement that is within expected levels, but is sustainable only by extremely high levels of effort and support.

C Evidence that learning difficulties are logically related to observed deficits in specific psychological processes.

D Evidence that learning difficulties cannot primarily be accounted for by:
(1) other conditions, such as global developmental delay, primary sensory deficits (e.g., visual or hearing impairments), or other physical difficulties;
(2) environmental factors, such as deprivation, abuse, inadequate or inappropriate instruction, socio-economic status, or lack of motivation
(3) cultural or linguistic diversity.
(4) any other co-existing condition such as Developmental Coordination Disorder, Attention Deficit Hyperactivity Disorder or anxiety.

Note: Learning disabilities may co-exist with many conditions, including attentional, behavioural and emotional disorders, sensory impairments or other medical conditions.

**See supporting document for a discussion of "clinically significant discrepancy"*

Assessment of Learning Disabilities

Thinking and Reasoning Abilities

Measures utilized to assess thinking and reasoning abilities should meet the requirements of standardized, individually-administered, psychometrically-sound, psychological test instruments, be supported by appropriate research, and interpreted by appropriately-trained psychological service providers.

There are times when deficits in specific psychological processes mask normal functioning in more general thinking and reasoning abilities, making an accurate assessment of global intellectual ability difficult. It is important to note that a diagnosis of a learning disability does not always require an individual's global intellectual ability (e.g., full-scale IQ) to fall in the average range or above. In such cases other estimates of thinking and reasoning abilities independent of the underlying processing impairment (such as a relevant index, component, or composite score, or other combination of appropriate subtest scores) can be taken as evidence of average functioning in these areas, provided these results are supported by evidence and interpreted with sound clinical judgment. *(See supporting document)*

Examples of currently available appropriate test instruments are contained in the supporting document.

Psychological Processes Related to Learning

It is mandatory to document performance in one or more of the following areas that is significantly and reliably below the levels predicted by obtained measures of thinking and reasoning outlined above:

- Phonological Processing
- Memory and Attention
- Processing Speed
- Language Processing
- Perceptual-Motor Processing
- Visual-Spatial Processing
- Executive Functions

It is also necessary that statements related to such deficits in psychological processes are based on more than one source of information, and that they be logically related to the observed learning difficulties. It should be noted that a number of different professionals may be involved in this part of the assessment, with the relevant results being incorporated in the final documentation of the learning disability by the regulated health care professional qualified to communicate the diagnosis.

Academic Achievement

The parent, teacher, and student themselves may be in a position to provide critical information about past and present academic successes and challenges, as well as the level of support provided to reach current levels of academic functioning.

It is mandatory to document under-achievement or achievement sustained by extremely high levels of effort or support in one or more academic areas (as evident in the classroom and in standardized test results) and to relate academic performance to underlying deficits in specific psychological processes. In most cases there will be evidence of a significant disparity between cognitive potential and measures of achievement in academic areas. In circumstances where there has been an extremely high level of effort and support, there may not be a significant disparity between cognitive ability and academic achievement.

The academic assessment measures should be individually administered, standardized tests. Canadian norms should be used wherever they are available. Where Canadian norms are not available, caution should be exercised when interpreting standardized scores. Measured achievement levels should, however, be consistent with the individual's observed on-going performance and areas of weakness

Comprehensive testing should be undertaken in observed areas of weakness, assessing all components of identified skills wherever possible. For example, if reading is identified as an area of weakness, assessment should include measures of decoding, comprehension, reading fluency, oral vocabulary, etc.

Age-equivalents and grade-equivalents should not be used as a basis for comparison between tests, due to their imprecision. It is considered best practice to compare standard scores from co-normed tests, using proper statistical procedures.

Other Factors in Assessment

Additional evaluation may be used to identify or rule out co-existing conditions *(See supporting document).*

Documentation of Learning Disabilities

Any diagnostic report should include all of the following components, unless a valid rationale is provided for not doing so.

- Relevant information regarding:
    - Information about home language use (original language, dialect, language(s) spoken in the home) medical/developmental/family history, including results of any vision/hearing evaluations
    - Educational history, including information about remedial programs, special class placements, or other support that have been provided
    - Other professional evaluations (e.g., speech-language, occupational therapy, educational consultant, etc.), including previous psychological assessments

- Examiner's statement regarding the validity of the present assessment results

- Behavioural observations during the testing session, as well as available observations (both anecdotal and from rating scales) from parents, teachers, classroom visits, etc.

- Reporting and interpretation of formal test results, including a description of the individual's strengths and needs, an indication of how the observed pattern of abilities and achievement demonstrates the presence of a specific disability, and adequately documented evidence as to the cause of the learning difficulties

- A specific, clear, diagnostic statement that the individual has a Learning Disability

- A description of how the individual's strengths and needs will impact on the challenges he/she confronts in present and future activities of daily living

- Based on the individual's strengths and needs, recommendations / suggestions / indications for further action and intervention in the areas of skill instruction, compensatory strategies, and self-advocacy skills, along with requirements for appropriate accommodations at home, and in school, community and/or workplace settings

- Signature of an **appropriately qualified member** of the College of Psychologists of Ontario (CPO) or the College of Physicians and Surgeons of Ontario (CPSO). The qualified member must be present (preferably in person, or via telephone or teleconference) when oral diagnostic reports are delivered *(see supporting document for more details).*

Note 1: Appropriately documented, informed consent for psychological assessment must be obtained in advance from the individual concerned, or from his or her parents or legal guardians, by the individual who will be conducting the assessment. In addition to information regarding the assessment procedures themselves, such informed consent

must include an explanation regarding: the potential release of information and/or the report to any third party; the potential distribution and storage of the assessment information and documentation, including circulation within a school system or inclusion in the Ontario Student Record (OSR); the individual's rights regarding withholding or withdrawal of consent; and the right of direct access to the qualified member of the CPO or CPSO who is responsible for the diagnosis.

Note 2: The above components for documentation of a learning disability are consistent with the LDAO definition of Learning Disabilities, as well as with the Practice Guidelines Regarding Psychological Assessment Reports Written for Clients with Learning Disabilities that was adopted by the Ontario Psychological Association.

Criteria For Frequency Of Assessment

A learning disability may be diagnosed at any age. If a thorough and comprehensive assessment is completed after age seven, and a diagnosis rendered, repeated assessment to re-establish the presence of a learning disability should not be required. Reassessment is recommended, however, at times when the individual is making significant transitions (such as from elementary to high school, or high school to post-secondary school), or whenever specific questions arise that cannot be answered by other means. Such reassessments will likely be undertaken to understand better how the individual's specific learning disability presently manifests itself, and the types of programming and accommodations that are most appropriate for the needs of the individual at that time.

A clear diagnosis of a learning disability, made on the basis of a comprehensive assessment performed by a qualified professional, should be transferable across school boards and other organizations.

Although the presentation of the disability may continue to change over time, a diagnosis based on competent and comprehensive evaluation that was performed after age 18 is considered definitive. Therefore, further reassessment undertaken to re-establish a diagnosis past this age is not typically required.

Involving Parents and Clients in the Assessment Process

An initial interview with parents can provide very valuable information about the young person's developmental history, family history of similar difficulties, and recent family changes. In addition, information on functioning in day-to-day life situations such as school, home and community groups, both from the perspective of the parents and the young person, can help in understanding the presenting difficulties. In the initial interview with an adult client it is useful to find out why the individual is seeking the assessment, and what expectations they have of the process.

When the family comes from a different culture, it can be useful to talk to someone who knows the cultural context, and to arrange for an interpreter for interviews if understanding English is an issue. It should also be borne in mind that many parents of children with learning disabilities have diagnosed or undiagnosed LD's themselves, so they may have difficulties processing information.

A feedback interview at the end of the assessment is a very important part of the assessment process. Parents need to be told about the strengths as well as the difficulties of their child, and to have explanations of how the difficulties might affect academic and everyday areas. Some concrete suggestions about what they as parents can do may be welcome. It is also the responsibility of the qualified assessor to convey and explain the diagnosis. Most parents will not be able to digest the findings in one interview, so there should be an opportunity for them to ask questions later.

With younger children, the assessor should make suggestions on how the parents can explain the results in simple words to their child. With older children and teenagers, a feedback session including them is important – again emphasizing strengths as well as difficulties, and making concrete suggestions on strategies that can be tried.

Similar principles apply to feedback interviews with adults. Growing up with learning disabilities often affects self-esteem and self-confidence, so feedback on test results should emphasize strengths and ways of coping with difficulties. Concrete illustrations of how difficulties might manifest themselves in specific life areas can be very helpful. Most adults have already developed many coping strategies on their own, and these need to be acknowledged. Additional suggestions can be offered for skill development, ways of compensating, and appropriate accommodations in academic pursuits or the workplace. As with parents, adult clients should have an opportunity to ask questions later, once they have had a chance to digest the findings.

To be useful to parents and individuals being assessed, written reports on assessments should include clear explanations, with a minimum use of jargon. With adolescent and adult clients, consideration could be given to addressing the report to the client directly, i.e. using "you" instead of "he/she".

Important Issues in the Diagnosis of Learning Disabilities

Non-Categorical Screening for Early Intervention

Children entering Junior and Senior Kindergarten programs arrive with highly diverse environmental, social and linguistic experiences, with various degrees of enrichment or deprivation, with a history of individual learning opportunities, and with a significant range of developmental maturity. Physical health factors can affect energy and motivational levels, while personality, emotional and family issues also have an impact on an individual's attitude to and readiness for learning. While the majority of these children adapt to the level of programming offered during these early school years, a minority show evidence of learning difficulties that place them significantly behind their peers in key areas of readiness for the acquisition of appropriate literacy and numeracy skills.

These learning difficulties may result from many different factors, including developmental, physical, biological, psychological, environmental, emotional, social, cultural and behavioural, and may be manifested in academic, home, and/or social settings. The extent of such learning difficulties can be established within the classroom by comparing individuals to their age peers on various global and standardized measures of academic progress, or by determining whether they meet age-appropriate "benchmarks" or milestones. From the results of such comparisons, specific criteria may be applied in order to determine which children are at risk of failure, for whatever reason, and for whom additional support will be provided. Such a screening is non-categorical in nature; that is, children are determined simply to be "at risk" without specifying a particular diagnostic category or identification label. Specific programming can then be implemented, either within the classroom in general, or to small groups of children with common learning needs, geared toward skill-building in preparation for entry to the Grade 1 program. The degree of success will usually depend to a great extent on the specific types of difficulty, the causes of the difficulties, the timeliness of the intervention, and the appropriateness of fit of the remedial programs used.

While generic intervention programs may result in improvements in some individuals, there will be a subgroup of children who will require more in-depth assessment to pinpoint each child's specific areas of difficulty related to learning, and individualize intervention programs so that the probability of success is maximized.

Assessment of Young Children

Assessment of preschool children may well indicate a pattern of strengths and weaknesses that could indicate deficits in specific psychological processes logically related to learning difficulties. A small number of children have a clearly documented history of impairments that can impact early learning (e.g., speech and language disorders, Pervasive Developmental Disorder, Developmental Coordination Disorder, etc.) and that have important implications for placement and programming from the

very beginning of formal schooling. In children younger than age seven, a clear diagnosis of a learning disability, in areas other than language processing, may be hampered by relatively weak reliability and/or predictive validity of current measures of thinking and learning, a relatively narrow range of measurable areas of academic achievement, and a broad band of normal developmental fluctuations. In cases where the existence of a learning disability cannot be established, younger children may be identified as "at risk" for later exhibiting a learning disability, *with appropriate interventions being initiated*. Further assessment at or after age seven will normally be required in order to confirm the differential diagnosis.

Later Manifestations of Learning Disabilities

Although the impairments of learning disabilities are generally life-long, they may not be immediately obvious in the early grades of school. Some learning disabilities, especially those affecting organizational, problem-solving and social skills, may not become apparent until later in the individual's education as the demands of the learning environment increase in complexity. There are even instances in which learning disabilities are diagnosed in adulthood, after the individual has left school. The effects of learning disabilities may be expressed differently over time, depending on the match between the demands of the environment and the individual's pattern of strengths and weaknesses.

Assessment of Individuals Learning through a Second Language

Many children who will receive instruction at school in English or French speak another language before they enter school. Whenever possible an assessment of skills in their first language should complement the assessment completed in the language of instruction at school. When assessing young children, particularly those for whom the language of instruction at school differs from the home language, observation of progress over time is key in evaluating strengths and determining areas of instructional need.

There is evidence that ESL children can acquire awareness of the phonological patterns of English relatively rapidly when instruction focuses directly on these patterns. Thus, in the early years of school, measures of English phonological processing and word decoding may reveal minimal differences between normally developing ESL and native speakers of English. Under these conditions, assessment of ESL students' phonological processes in English can provide useful diagnostic information. However, prior to drawing diagnostic conclusions with reference to inadequately developed English phonological awareness skills among ESL students, it is essential to ensure that students have had appropriate classroom opportunities to acquire these skills.

It is also important to note that differences in more general aspects of the language assessed by verbal ability or achievement tests (e.g., vocabulary knowledge) may be apparent for several additional years. Thus diagnostic inferences should not be drawn

from low levels of general verbal abilities in English until students have had sufficient opportunity to catch up to native speakers in their abilities.

For further details see supporting document.

Individuals with Abilities Outside the Average Range

Clinicians must exercise a great deal of caution when attempting to diagnose learning disabilities in persons whose intellectual abilities fall outside the average range (i.e., plus or minus one standard deviation from the mean). Psychometric phenomena, such as regression toward the mean, make the likelihood of over-diagnosis (false positives) greater in persons whose thinking and reasoning abilities are in the superior or very superior ranges and under-diagnosis (false negatives) greater in those who fall in the below average range *(see supporting document).*

Individuals whose abilities essential to thinking and reasoning are assessed to be above average or higher may demonstrate one or more psychological processes related to learning and academic achievement that are in the low average or average range. It is important to be aware that, for these individuals, these low average-to-average scores do reflect a significant weakness relative to their high level of cognitive ability, and may be indicators of a learning disability.

Differential Diagnosis of Developmental Delay

Individuals whose abilities essential to thinking and reasoning are assessed to be globally below average and whose cognitive-developmental milestones and adaptive behavior are lagging behind their peers, are classified by the Ontario Ministry of Education as having either a mild intellectual disability (MID) or a developmental disability (DD), depending upon the degree of impairment. They tend to have difficulties in all academic areas. They are therefore unlikely to meet the diagnostic criteria for learning disabilities. For students whose intellectually functioning places them in the MID category, there will be some instances where it is possible to diagnose a learning disability. However the definition of DD clearly excludes a diagnosis of a learning disability.

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