THE ROLE OF COGNITIVE ASSESSMENTS IN THE WORKPLACE

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What Are Assessments and Why Are They Important?

As mentioned earlier in this guide, LD, ADHD and cognitive disorders are manifestations of an underlying abnormality in brain functioning. In this respect, they are “neurological” or brain-related disorders.

Learning disabilities or cognitive disorders cannot be diagnosed through medical tests or diagnostic procedures. There are several reasons, which are listed below, that medical evaluations including brain scans have been unable to accurately diagnose an LD and will likely never be able to do so consistently well.

- Most individuals with bona fide LD and many with other cognitive disorders will have normal brain scans (CT, MRI, SPECT, etc.) and medical tests.
- Learning and cognitive disabilities are not uniform disorders that affect each individual in the same way. There are many types of each disability.
- There are many different parts of the brain that may uniquely contribute to the development of a learning or cognitive disability.
- Even if one can identify a dysfunctional part of the brain on a scan, each dysfunctional area can have a different impact on academic and cognitive development in each individual.
- An individual’s overall intelligence and other cognitive strengths can determine the nature and degree to which underlying brain impairment results in disturbed functioning.
The accurate diagnosis of an LD or cognitive disorder must be done through sampling how the brain functions and its ability to process information. Despite the fact that these conditions are known to reflect a problem in brain functioning, diagnosis can only be achieved through administering comprehensive tests of cognitive and academic abilities.

Moreover, by law, a psychologist who is qualified to practise in this area must interpret these tests. Along the way, the psychologist must consider whether certain weak test results are related to fundamental impairments in brain functioning or caused by other factors. Depending upon the focus, specialization and training of the psychologist providing the services, the process of administering and interpreting such cognitive and academic tests may be called:

- "Psychodiagnostic" assessment
- "Psychoeducational" assessment
- "Neuropsychological" assessment

Regardless of the term used, a well-conducted assessment will address the following questions:

- What is the client’s level of general intelligence and is it at least in the average range?
- How well does his/her brain process information across a wide range of domains?
- What are the client’s academic achievement levels (e.g., reading, spelling, writing, arithmetic)?
- Are there any substantial discrepancies between the client’s tested level of intelligence and his/her academic abilities?
- Can the discrepancies be explained by identified problems in the brain’s information processing abilities?
- Are there other factors that can better explain, or may also be contributing to, the unexpectedly poor academic achievement performance?
- Is (are) the relative weakness(es) in academic ability likely to have an adverse impact on school or work?
- What can be done to overcome the impact of the LD in school or the workplace?
- What other interventions may be helpful for the individual with "learning challenges" but no LD?

**Relevance of Assessments to the Workplace**

When trying to overcome many issues or problems in life, a well thought out evaluation of the issue is an important place to start. When considering the possible impact of a learning or cognitive disability on an individual in the workplace, it is critical to begin with a comprehensive assessment of the employee.

With respect to the workplace, an LD assessment will provide a critical “differential diagnosis” to identify the source of the cognitive difficulties. Once the source of the problem is identified, the involved parties will be guided toward the most appropriate intervention strategy to manage or circumvent the problem in the workplace.
It is very important to recognize that cognitive problems — whether related to primary memory/learning impairment, or caused by reading or writing limitations, or other difficulties — can occur for a variety of reasons other than primary brain impairment; furthermore, similar functional difficulties encountered in the workplace may result from different underlying neurological deficits; therefore, an intervention or accommodation that may work well in one instance may not work well in another. It behooves the parties to have a thorough understanding of the underlying problems and related recommendations through an accurate diagnosis.

As the following table demonstrates, most cognitive difficulties in the workplace can occur for a variety of reasons either singularly or acting in unison. The assessment process results in an understanding of the problem through the provision of a differential diagnosis.

<table>
<thead>
<tr>
<th>Functional Work Problem Examples</th>
<th>Potential Causes</th>
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<tbody>
<tr>
<td>Attention/concentration difficulties resulting in safety concerns and/or poor productivity/work pace</td>
<td>ADHD</td>
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<td></td>
<td>Neurological impairment</td>
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<td></td>
<td>Emotional disorder (e.g., anxiety/stress, depression, trauma/abuse)</td>
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<td>Substance abuse disorder</td>
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<td>Memory disturbance resulting in inability to recall procedures, information or new learning</td>
<td>Neurological impairment including learning disability</td>
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<td>Emotional disorder</td>
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<td>Reading difficulties resulting in communication breakdown through e-mails, memos and correspondence</td>
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<td>English as a Second Language</td>
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<td>Primary or secondary attentional or memory disturbance</td>
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<td>Difficulties in problem solving, organization, planning</td>
<td>Neurological impairment including learning disability</td>
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Components of the Assessment Process
A sound psychological assessment in the context of a potential LD usually consists of several components.

Intake Process: This may involve completing some preliminary questionnaires and/or screening measures.

Clinical Interview: This should involve a detailed review of the client's academic, medical, family and mental health history and current clinical status by the attending professional.

Psychometric Tests: These will typically involve several hours of one-on-one testing in a quiet room and may be conducted by a specifically trained “psychometrist” or test examiner under the supervision of a qualified member of the College of Psychologists. Test areas covered should be comprehensive and include most if not all of the following test domains: Phonological Processing; Memory, Learning, Attention/Concentration; Processing Speed; Language Processing; Perceptual-Motor Processing; Visual-Spatial Processing; Executive Functions; and at least a screening test for psychological disturbances. If a vocational component is also part of the assessment, then the following additional test domains may be covered: Vocational Interests, Vocational Aptitudes, Personality/Temperament indicators.

Assessment Report: Should be comprehensive, summarizing the findings of the clinical interview, screening measures and cognitive testing. It provides an analysis, differential diagnosis and recommendations.

Feedback Session: Involves a meeting with the psychologist to discuss the test results and communicate the identified diagnosis and recommendations.

Assessment Outcomes: Diagnostic Conclusions and Recommendations
A sound diagnostic assessment that is specifically geared toward the workplace should feature the following components in the conclusions and recommendations where indicated.

1. Intellectual Status: A clear statement regarding the employee’s intellectual level (average, above average, below average, etc.)
2. Identified cognitive strengths/weaknesses
3. Academic Status: A clear statement regarding the employee’s academic levels
4. Differential diagnosis supported by the presenting evidence
5. Occupational facilitators/strengths include comments such as:
   - Emphasizing learning through verbal instruction/reading
   - Emphasizing working at own pace
6. Occupational activity limitations/weaknesses include comments such as:
   • Avoiding moderate to highly distracting environment
   • Avoiding highly complex/detailed written materials
7. Recommended compensatory strategies include comments such as:
   • Utilizing procedural checklists
8. Recommended adaptive technologies include comments such as:
   • Using read and scan technology due to reading limitations
   • Using voice-activated word processor due to writing limitations

Comments on Screening Tools and Assessment Referral Criteria
In order to achieve maximum benefit from a diagnostic assessment, the employer should be encouraged to ask specific questions to which the psychologist may respond directly at the end of the report. Most experienced clinicians will welcome this process, as it will ensure that the assessment will be tailored to the individual’s needs in the workplace.

Assessment Referral Criteria
The following is a method for identification of those with a potential LD, ADHD or other cognitive impairment requiring assessment.

Identification of a significant barrier to productive work, which primarily involves:
   • Hyperactivity
   • Memory/learning difficulties
   • Problems with planning/organization/initiation
   • Problems with judgment/decision-making/safety awareness
   • Problems with time management
   • Problems with spatial orientation
   • Difficulty listening/to/absorbing instructions
   • Attention/concentration difficulties
   • Problems with reading, writing or arithmetic that appear to be incompatible with the person’s general abilities and/or attained educational level
   • Poorly developed social skills

If the above difficulties also appear to be present in the face of significant emotional distress, then the emotional distress should be addressed first.
Assessing for ADHD

Estimates vary, but it is believed that up to 80 per cent of those with ADHD also have LD. In the LD population, it is estimated that 30 to 40 per cent also have ADHD, so clearly the conditions are highly related. One of the main links between these two diagnoses is the fact that attentional deficits can be one of the underlying information processing difficulties that give rise to academic problems. In other words, problems with attention can be so pronounced as to interfere with the acquisition of reading, writing or mathematical skills.

Similar to LD, ADHD cannot be readily diagnosed through medical technologies, despite the fact that the disorder is due to brain dysfunction; however, even though attention and concentration are clearly cognitive skills, and can certainly be measured, they are a multifaceted set of cognitive skills in their own right.

Furthermore, the seat of attention/concentration abilities resides in the forward most part of the brain known as the “frontal lobes.” The frontal lobes are complex and functions relating to them are extremely difficult to measure. This difficulty lies in the fact that the frontal lobes play an integrative role, co-ordinating and synthesizing inputs and information that are being received by other areas of the brain. Through the attentional processes, the frontal lobes are responsible for sifting out irrelevant information, such as distractions in the environment. The frontal lobes are also responsible for adaptation to one’s environment. When we are involved in routine behaviours and skills, the frontal lobes are not highly activated in general. Most cognitive/academic testing is poor at testing the frontal lobes because: (1) both the clinical interview and testing generally occur in a quiet, distraction-free environment; and (2) testing protocols are generally highly structured, reducing demand on the frontal lobes that would otherwise have to create the “structure.”

There are some tests that are specifically geared toward ADHD and many of these are well validated; however, according to some clinicians, many of these tests often seem to produce “false positives” and/or are more effective with children than adults, perhaps in part because over the years adults learn to manage their attentional difficulties, especially in quieter, more structured environments.

Most often, the diagnosis of ADHD is made clinically, particularly in adult populations. “Clinically” means that the examiner considers the full history of the client, the client’s behaviours and presenting symptoms, and observations throughout testing (perhaps with greater emphasis than test scores themselves), and then uses subjective client questionnaires. Additionally, input may be sought from significant others, friends and even co-workers and/or employers. Other possible explanations for the attentional and/or hyperactivity symptoms are then considered and ruled out before arriving at a diagnosis of ADHD.
Assessment Costs
The cost of an assessment will vary depending upon the examiner’s experience as well as the comprehensiveness of the test battery administered. These assessments are generally not covered by provincial health care plans, but may be covered by extended health benefits with a physician referral. Although some community agencies such as ALDER offer subsidized or free assessment services (often funded through provincial or federal programs), most assessments are provided by psychologists in the private sector. Currently, a strictly diagnostic assessment can range from $1,000 to $3,000. Combining a vocational component to the assessment can add another $500 to $1,000.

Benefits to the Workplace
The provision of a well performed assessment is essential as a blueprint for determining the appropriate interventions, accommodations and placement of an individual with LD, ADHD or any other cognitive or psychological disorder. A sound diagnosis is paramount to assuring that all concerned have a proper understanding of the employee’s condition, strengths and vulnerabilities as well as his/her needs in the vocational context. This profile is also necessary to identify the most suitable occupational restrictions, facilitators, accommodations and roles to assure the employee’s optimal performance in the workplace. Achieving optimal performance is in the best interests of both the employee and employer, but can only occur through mutual understanding, open communication and a team-like approach.
IN THIS SECTION YOU HAVE LEARNED:

- An accurate diagnosis of LD cannot be achieved through medical or diagnostic procedures. It can only be accomplished through the sampling of how the brain functions and its ability to process information. This must be accomplished through administering comprehensive tests that measure cognitive and academic abilities.

- Legally, only a specially trained psychologist who specializes in LD can interpret these tests.

- Assessment components include general intelligence levels, academic achievement levels, discrepancies between intelligence and academic abilities, and solutions to overcome barriers caused by LD and other learning challenges.

- Because most medical technologies cannot readily diagnose for ADHD and much cognitive testing is weak, due to environmental and structural reasons, assessment of this disorder may be more effective in children than in adults. Diagnosis of ADHD in adults is often supported by several factors that could include presenting behaviours, observations during testing, questionnaires and external inputs from family members.

- Components of an assessment process include intake, clinical interview, psychometric testing, assessment reports and feedback sessions.

- Assessments geared toward the workplace should include intellectual status, cognitive and occupational strengths and weaknesses, academic status, recommended compensatory strategies, and adaptive technologies. Assessment costs generally range in price from $1,000 to $3,000, although coverage may be available through some extended health benefits with a physician’s referral.
APPENDIX 4, CHAPTER THREE:
The Role of Cognitive Assessments in the Workplace

Neuro-Vocational Strength Clusters
This section highlights patterns of cognitive strengths and how these strengths relate to various job demands. When considering a return to a prior occupation or starting a new one, rehabilitation professionals need to consider a particular “strength pattern” in order to appropriately guide the vocational rehabilitation process. The patterns or clusters presented below are very broad to convey the basic point. In reality, they need to be broken down further by a qualified professional to address the appropriateness of specific occupations.

Profile I: Strong Verbal Intelligence, Verbal Learning, Learning/Memory and High Level Thinking Skills
This profile may be broken down into two subcategories, with the non-/semi-professional category requiring less education, and the professional/managerial category requiring more education.

- Non-/Semi-professional-Verbal: Individuals with low- to mid-average verbal memory/learning and problem-solving abilities are likely more suited for this job cluster. Jobs may require little if any schooling beyond high school (although a good working knowledge of business computer applications is usually required; due to competition in the workplace, employers often insist upon basic college/university education). Occupations may include entry- to mid-level administrative, clerical, customer service and sales positions.

- Professional/Managerial-Verbal: Individuals with mid- to high-average or above verbal learning, problem-solving and mathematical abilities may consider this job cluster. These occupations encompass mid- to upper-level management/administration and verbally oriented professions including teaching, counselling, social work, accounting, marketing and any profession that requires a university or graduate level education.

Profile II: Strong Visual-Spatial Intelligence, Learning/Memory and Executive Skills
Visual-spatial skills relate to one’s ability to work with visual information. Such information includes observing and learning by simply watching someone perform a task without a verbal explanation. Visual-spatial perception includes the ability to notice subtle differences in objects, words, etc., based upon their looks only. Quality controllers, proofreaders and some types of clerks require a keen sense of visual-spatial perception to detail. (When words are involved, good spelling and grammar abilities are also important.)
Visual-spatial reasoning and intelligence are crucial skills to many trades such as plumbing, electricity, electronics, carpentry, cabinet making, computer design, architecture, landscape design, drafting, CAD-CAM applications and visual arts, as the person typically has to "visualize" a two- or three-dimensional pattern in his/her head and create it, or an image of it, out of paper or other raw materials. The individual must also be able to appreciate distances, shapes, sizes, angles, etc., and visually appreciate different object perspectives.

Non-/Semi-professional-Visual-spatial: Individuals with low- to mid-average visual memory/learning and problem solving abilities are more likely suited for this job cluster. These occupations tend to require little or no schooling beyond high school. They include occupations such as landscaper, locksmith, tailor, rough carpenter, general laborer, quality control inspector, upholstery designer, machine operator (usually requiring good eye-hand co-ordination and reaction time), welder, assembly worker, delivery person, food preparation/services worker, and construction/resource (forestry, mining, fishing, etc.) worker. Construction/resources positions tend to be quite dangerous jobs, likely even more so for a brain-injured person.

Professional/Technical/Trades-Visual-spatial: Occupations that require mid- to high-visual memory/learning, problem-solving and possibly mathematical abilities fall into this job cluster; examples of applicable occupations include technical maintenance/repair, mechanics, construction planners/supervisors, a variety of blue collar trades (e.g., electrician, carpenters), and various engineering, architectural, and software design positions.

Other Cognitive Disorders
Cognitive Deficit Disorder Not Otherwise Specified is a diagnostic category within the fourth edition of the Diagnostic and Statistical Manual of Psychiatry (DSM-IV). This category is for persons living with disorders that are characterized by cognitive dysfunction presumed to be due to the direct physiological effects of a general medical condition. Individuals will have measured mild to moderate cognitive impairments, with presumed neurological underpinnings, and which cannot be otherwise diagnosed within the DSM. For successful vocational reintegration to occur the individual must have stabilized in terms of recovery and have already completed all treatment related rehabilitation; all secondary symptoms must also be well managed if present.

As a more specific example of a cluster of cognitive disorders, Acquired Brain Injury (ABI) is an impairment of brain functioning that is physically or psychologically verifiable. Common causes of ABI are brain lesions caused by trauma such as motor vehicle accidents, falls, assaults and violence, or sports injuries. Other brain lesions can be due to internal events such as focal brain lesions, tumors, cerebral vascular accidents, aneurysm or infections of the brain. Another cause of ABI is ingestion of toxic substances due to either alcohol or drug abuse or exposure to toxic chemicals. It may also include an acquired brain disorder, sustained through trauma or intracranial pathology (e.g., stroke, tumour), which results in mild to moderate cognitive impairment(s). These individuals will typically meet the CDNOS criterion.
Persons with ABI and LD may, on the surface, exhibit similar cognitive deficits; however, the Brain Injury Association of America (BIA) cautions us to be aware of each population’s unique needs. The BIA states, “The cognitive profiles of students with traumatic brain injuries differ in important ways from profiles of [students] with congenital learning disabilities, learning challenges or developmental delays.”