

An Overview of Learning Disabilities

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OVERVIEW OF LEARNING DISABILITIES

Learning disabilities, or Specific Learning Disorders as they are called in DSM-5 (Diagnostic and Statistical Manual), are neurodevelopmental disorders that share a common feature of persistent difficulty with learning key academic skills. For children with learning disabilities, the relatively simple tasks of identifying letters, spelling a common word, understanding subtraction, or putting their thoughts into the written word can be highly frustrating. The problems in learning are not due to cognitive impairments (i.e., intellectual disability), medical issues that affect alertness such as ADHD/ADD, neurocognitive conditions such as a Stroke, limited exposure to academic information, not being prepared to learn due to environmental issues such as hunger or family stressors, or the use of ineffective teaching methods.

Learning disabilities affect about 5% of all children. There is ample research to indicate that learning disabilities are genetic, yet certain environmental factors such as prematurity and maternal smoking during pregnancy also place a child at higher risk for learning disabilities. Learning disabilities often co-occur with ADHD/ADD, and students with learning disabilities tend to be at higher risk for anxiety and/or depression because of the chronic frustration they experience in the school setting. With early intervention and support, students with learning disabilities can graduate from high school (nearly 70% do) and sustain employment as adults (about 55% do).

TYPES OF LEARNING DISABILITIES

Learning disabilities can affect reading, spelling, writing, or math skills (both math reasoning and calculation skill). Students with a learning disability will show academic achievement at a level below that which would be expected from similar-aged students and the student's own learning capability (i.e., intellectual skills).

The DSM-5 does not use the commonly-known descriptions for learning disabilities (such as Dyslexia). Instead, it groups all learning disabilities together; with identifiers used to delineate what skill areas are affected. Ample research exists, though, to identify several clearly-defined learning disabilities that differ in what academic skills that they affect:

Dyslexia.

Dyslexia is the most common learning disability. Students with Dyslexia show significant problems with learning and applying the phonetic code in an effortless manner. This means that the letters and their corresponding sounds do not make sense to these students, so that they will have trouble recognizing phonetic patterns and even remember that they saw a particular word just a sentence ago. They have trouble learning letters and sounds, do not understand rhyming, have trouble sounding out words, have trouble with spelling, and/or read very slowly. Students with Dyslexia will have trouble with reading comprehension, but only because they could not accurately read the text; oral comprehension is not affected. There are two types of Dyslexia. Dysphonetic Dyslexics have difficulty connecting sounds to symbols and might have a hard time sounding out words; spelling mistakes show a very poor grasp of phonics. Dyseidetic Dyslexics generally have a good grasp of phonetic concepts but have great difficulty with whole word recognition and spelling; also, their reading speed will be very slow.

Comprehension-based Learning Disability.

Students with a comprehension-based learning disability may be also described as having a language processing disorder, because the problem for these students is with understanding what they've read (despite fluid/accurate reading) or what they've heard. Specifically, the pathways by which the brain organizes and makes sense of language are affected, making it very difficult for the student to understand language whether it is presented orally or in print. Students with a comprehension-based learning disability will often say that they thought they understood the material when they were reading it or listening but then cannot seem to understand it afterwards. This is different from students with ADHD, who understand the material when they are reading or listening, but did not properly encode the information due to problems with attending.

Dysgraphia.

Dysgraphia is a learning disability of writing. Students with Dysgraphia will demonstrate problems with the physical act of writing in addition to problems with putting their thoughts into words. Specifically, these students will exhibit very hard-to-read handwriting; spacing is weak, writing is a confused mix of upper and lower case letters, and size is typically either overly large. These students resist writing, usually display poor but phonetically accurate spelling, and have trouble with putting their thoughts into words; if they dictate, their 'writing' is usually much better than what they can write on their own. Dysgraphia often co-occurs with other issues, such as ADHD, Autism Spectrum Disorder, and even Nonverbal Learning Disorder.

Dyscalculia.

Dyscalculia, or math-based learning disability, affects a student's ability to understand math concepts, perform math calculations, or both. These students may have a hard time understanding the concept of numbers; for example, they might not understand what number is larger than another, appreciate how multiplication works, or struggle with math-related vocabulary. Dyscalculia is often part of another issue, such as NLD (see below), and is more common in youth with neurological issues such as cerebral palsy. Dyscalculia may not be caught until the student is exposed to math tasks that reach beyond memorizing math facts and math formulas.

Non-Verbal Learning Disability (NLD).

This learning disability affects a student's higher-order nonverbal processing skills of information processing, organizing information, synthesis, and categorization. Nonverbal Learning Disability also impacts visual-motor integration, and thus handwriting is often very poor. These students typically learn to read without much trouble, but it then becomes apparent that they are not applying the phonetic code but rather are memorizing what words look like. Their greatest academic struggle, though, is with math; mathematics requires the type of processing skills that are weak with Nonverbal Learning Disability. Prose writing is also weak; they may write a lot but not have much 'substance' in what they wrote, or they will write very little because they cannot figure out what to write. Unlike other learning disabilities, Nonverbal Learning Disability also affects non-academic skills, such as social skills, motor skills (often, these students are clumsy and uncoordinated), and emotionality (often, these students struggle with anxiety).

TREATMENT OF LEARNING DISABILITIES

Effective treatment of learning disabilities begins with a comprehensive assessment that identifies the student's learning/processing profile and also delineates the specific areas of academic impairment. A good assessment will also outline the types of interventions that are going to be helpful both in the school setting and at home, given that student's specific learning disability pattern. The types of interventions that may be recommended include the following:

Education regarding learning disabilities

It is highly important that the parents and child both understand the nature of the learning disability in order to dispel any false thoughts about the child's capabilities (for example, Sally is not stupid, she has trouble understanding phonics). There are many good resources (books, websites, e-books) that provide excellent information on learning disabilities, and sometimes counseling sessions can also help in the process of education.

Targeted tutoring

There is ample research to show that the underlying challenges for many learning disabilities can be ameliorated through targeted tutoring; that is, tutoring that is specifically geared for students with that learning disability. For example, students with Dyslexia often improve their overall reading with multi-sensory techniques, and students with Nonverbal Learning Disability often show academic improvements when their processing speed and/or conceptual imagery skills are directly targeted.

School-based support

Some students with a learning disability will be able to obtain special education services through their school; services can range from having a special education teacher meet with the classroom teacher to provide consultative support to academic instruction outside of the regular classroom. It is rare that students with learning disabilities are placed in a fully separate classroom for their school day. School-based support also includes providing accommodations in the regular classroom that serve to ensure that the learning disability

does not interfere with learning. For example, a student with Dyslexia might be given their textbooks on tape/disc so that they can hear it instead of only reading it; a student with a Written Expression Learning Disability might have someone scribe for them or be allowed to use a computer to write, and a student with Dyscalculia might be allowed to use a calculator or math facts grid.

Compensatory strategies

It is critical that students with learning disabilities learn how to live with have a learning disability, particularly how they can ensure that their disability does not interfere with daily functioning and life satisfaction. The use of compensatory strategies can be a significant help in this manner, and many of these are an extension of accommodations that the student may have in school. For example, compensatory strategies include using audio books, using audio recorders to make 'to do' lists, using computers for writing, using calculators, etc.

Addressing interfering factors

Because learning disabilities co-occur with other issues and also place students at risk for mental health concerns such as anxiety and depression, effective intervention will also work to lessen the impact of these interfering factors. For example, the student might participate in counseling to learn more effective coping strategies for their anxiety.