

LD101: Some Definitions, Excerpts & Basic Resources

A Potential New Neuropsychological Definition of Learning Disabilities

Although most learning disabilities affect academic skills (reading, writing, mathematics) and the associated underlying neuropsychological functions needed for these skills, a learning disability can also affect specific areas of neuropsychological functioning, including attention, executive functions and problem-solving abilities, spoken language, visuospatial skills, or learning and memory.

A learning disability substantially limits functioning in one or more aspects of a person's life (e.g., school, work, home, social). It is not better explained by an acquired neurological disorder that occurs either in childhood or later in life, mental retardation, or a pervasive developmental disorder. It is also not due primarily to cultural factors, psychosocial factors, psychiatric disorder or lack of education, although it may co-exist with these factors.

Mapou, R. (2007). *Assessment of learning disabilities and ADHD in postsecondary education students: A neuropsychological approach*. Presentation at a meeting of Disabled Students in Higher Education Service Providers, Boston, MA.

Diagnostic and Statistical Manual of Mental Disorders (DSM-IV)

Learning Disorders: Reading Disorder or Mathematics Disorder

As measured by a standardized test that is given individually, the patient's ability to read (accuracy or comprehension) or mathematical ability is substantially less than would be expected from the patient's age, intelligence, and education. This deficiency materially impedes academic achievement or daily living.

Disorder of Written Expression

As measured by functional assessment or by standardized test (same wording as above). The difficulty with writing grammatically correct sentences and organized paragraphs materially impedes academic achievement or daily living.

Expressive Language Disorder

As measured by standardized tests that are given individually, the patient's scores for expressive language development are materially lower than those for both nonverbal intellectual capacity and receptive language development. Clinically, the patient may have severely limited vocabulary, make errors of tense, recall words poorly, or produce sentences that are shorter or less complex than is developmentally appropriate. This disorder interferes with educational or occupational achievement or with social communication.

Mixed Receptive - Expressive Language Disorder

ADHD checklists

Attention-Deficit / Hyperactivity Disorder, Predominantly Inattentive Type

Attention-Deficit / Hyperactivity Disorder, Predominantly Hyperactive-Impulsive Type

Attention-Deficit / Hyperactivity Disorder, Combined Type

Morrison, J. (1995). *DSM-IV made easy: The clinician's guide to diagnosis*. NY: Guilford Press

Attention-Deficit/Hyperactivity Disorder

... a learning problem characterized by difficulties in maintaining attention. ADHD has long been associated with learning disabilities...overlap of between 25 and 70 percent... ADHD is relatively new as a described exceptionality. Characteristics of ADHD include

- * Hyperactivity
- * Inattention, difficulty in concentrating, and failure to finish tasks
- * Impulsiveness, such as acting before thinking, calling out in class, and difficulty awaiting turns
- * Forgetfulness ... need for supervision

Eggen, P. & Kauchek, D. (2010). Learners with exceptionalities. In P. Eggen & D. Kauchek, *Educational psychology: Windows on classrooms* (p. 140). Upper Saddle River, NJ: Pearson.

Executive Functioning

Please see handout:

Fox, L. (2010). Executive functioning: Doing something right all along. In L. Fox & L. Ijiri (Eds.), *Changing lives through metacognitive relationships: LD/ADHD and college success*. Milton, MA: Curry College.

Common Components of Current Definitions of Learning Disabilities:

Ability Assessment of Psychological Processes: Commonly required are the 4 primary indices in the Wechsler Intelligence Tests: Verbal (and long-term memory), Working Memory (verbal) (short-term memory), Perceptual Reasoning (non-verbal) (fluid reasoning), and Processing Speed (non-verbal). Average or above ability in several.

Discrepancies among Abilities, among Achievement Areas, between Ability & Achievement: Here is where a bright student, for example, might be performing in the average range or below, which could be a significant discrepancy.

Excluding All Other Explanations: See the *Learning Disabilities Brochure* from Curry (LDR) where it lists what an LD is not; i.e., mental retardation or low intelligence, a psychiatric disorder, a physical disability, a motivational or behavior problem, for example.

Response to Intervention (RTI): This relatively new component looks for improvement with early and intensive assistance with young children. Direct instruction and curriculum-based assessment. Lack of progress serves as a marker for potential psychoeducational evaluation.

Metacognition: Self-awareness and self-monitoring of learning is less prevalent among children with LDs. "The metacognitive perspective will probably dominate the immediate future of the learning disabilities field...strategies have been supported by research and are very effective" (p. 27).

Attention and Memory: These are being considered more closely in recent years since they are assumed to be foundational to academic achievement. Current research on ADHD and Executive Functioning are relevant.

Bender, W. (2004). *Learning disabilities: Characteristics, identification, and teaching strategies*. Boston: Pearson (& LF)

Some Helpful Websites (with excerpts)

(Please note that information on LDs, ADHD, and Executive Functioning usually refers to young children. Young adults have many years of established ways of surviving in school that impact learning.)

1. www.ldanatl.org/aboutld/teachers/understanding/strategies.asp

The Learning Disabilities Association of America (LDA) is the largest non-profit volunteer organization acting as an advocate for people with learning disabilities. The LDA's website offers a wide range of resources for adults, parents, teachers and advocates. Special sections include a bookstore, a calendar of events and legislative updates.

For Teachers **Successful Strategies for Teaching Students with Learning Disabilities**

Lee Swanson (1999) and his colleagues found two major intervention practices that produced large outcomes. One is **direct instruction**. The other is **learning strategy instruction**.

- a broke learning into small steps;
- b administered probes;
- c supplied regular quality feedback;
- d used diagrams, graphics and pictures to augment what they were saying in words;
- e provided ample independent, well-designed, intensive practice;
- f modeled instructional practices that they wanted students to follow;
- g provided prompts of strategies to use; and
- h engaged students in process type questions like “How is that strategy working? Where else might you apply it?”

Something else that seems to make a real difference is the practice of **scaffolding**. Start out with heavily teacher-mediated instruction -- explicit instruction – then as students begin to acquire the skill, moving down the continuum to more student-mediated instruction.

2. www.nclld.org/ld-basics/ld-explained/basic-facts also www.ld.org

The National Center for Learning Disabilities (NCLD) provides accurate and up-to-date resources and information through the LD website. NCLD programs include a parent and advocacy center, as well as an educator resource center. Other special features include online publications and an online store.

Checking Up on Learning Disabilities

In the early 1960s, the term "learning disabilities" was coined to describe a group of children who, despite normal intelligence, were having significant problems with learning. The difficulties experienced by these children were unexplained and unexpected, and could not be attributed to other conditions such as mental retardation, impairments of hearing or vision, motor disorders and medical conditions. In 1969, the federal government recognized "specific learning disabilities" as a category within special education, and in 1975, the Individuals with Disabilities Education Act (IDEA) was authorized. More than 30 years later, the field of special education (as well as general education and the public at large) is struggling to understand what learning disabilities are all about!

A Definition in Need of Definition

The term "specific learning disability," as it appears in federal law, is defined as:

...a disorder in one or more of the basic psychological processes involved in understanding or in using language, spoken or written, that may manifest itself in an imperfect ability to listen, think, speak, read, write, spell, or to do mathematical calculations, including conditions such as perceptual disabilities, brain injury, minimal brain dysfunction, dyslexia, and developmental aphasia.

...the term does not include learning problems that are primarily the result of visual, hearing, or motor disabilities, of mental retardation, of emotional disturbance, or of environmental, cultural, or economic disadvantage.

What is and isn't a learning disability (LD)? LD is more than a difference or difficulty with learning — it is a neurological disorder that affects the brain's ability to receive, process, store, and respond to information. Learning disabilities are not caused by economic disadvantage, environmental factors, or cultural differences.

Executive functioning describes a set of mental processes that helps people to connect past experience with present action. Learn how executive function governs your child's ability to manage time, make plans, and keep track of more than one thing at once.

Many other conditions may coexist with learning disabilities, such as AD/HD, behavioral problems, and executive functioning difficulties.

Many people with learning disabilities lead satisfying, thriving, and successful lives. Healthy social and emotional skills are the most consistent indicators of success for people with LD, even more so than academic factors.

What We Know and Where We're Going

A useful overview of important issues and reflections about the LD field:

1. The field of learning disabilities is interdisciplinary in research and practice. Both general and special educators are responsible for helping students with learning disabilities. Learning disabilities are not just a US phenomenon.
2. Neurological dysfunction may be presumed or suspected, but learning disabilities have a variety of possible causes. In part, the field of learning disabilities emerged from the work of physicians who identified symptoms of known brain injury that were similar to behaviors of people with learning disabilities. The presumption of neurological dysfunction stems from the fact that there is often no other plausible explanation to account for learning failure.
3. The term "learning disabilities" describes a heterogeneous group of disorders. Learning disabilities include difficulties in such specific areas as reading, spelling, writing, mathematics, spoken language, and socialization.
4. Learning disabilities vary in severity and pervasiveness, and they persist across the lifespan. Learning disabilities are pervasive (they do not go away and reappear) and they impact people differently in different situations.

5. A hallmark of learning disabilities is the contrast between an individual's ability and achievement. There is controversy about how these differences should be assessed and how much of a difference is needed to qualify for the LD classification.
6. Individuals with specific learning disabilities form a very diverse group spanning gender and age as well as racial, socioeconomic, and ethnic groups. No two individuals with learning disabilities are exactly alike, so knowing that an individual has learning disabilities tells very little about that person.
7. Learning disabilities may coexist with other disabilities or with giftedness. It is estimated that approximately one third of individuals with LD also qualify for a diagnosis of AD/HD. It is not uncommon for individuals with LD to have special talents in areas unaffected by their disability or to have unique "out-of-the-box" approaches to problem solving and other types of challenges.

Individuals with certain other disorders (e.g., mental retardation) cannot be identified as having LD.

8. **Students with learning disabilities learn best given systematic approaches to tasks. Most individuals with learning disabilities approach tasks in unsystematic, disorganized and inefficient ways. Extensive research in the area of instructional interventions has revealed that teaching students with LD to handle tasks strategically and in a systematic fashion can be of enormous benefit to them.**
9. Learning challenges (or apparent disabilities) can actually be a consequence of teachers' failure to offer effective instruction.
10. And remember — **learning disabilities do not go away! A learning disability is not something that can be outgrown or that is "cured" by medication, therapy, or expert tutoring.**

Problems with executive functioning may be manifested when a person:

- * has difficulty planning a project
- * has trouble comprehending how much time a project will take to complete
- * struggles to tell a story (verbally or in writing); has trouble communicating details in an organized, sequential manner
- * has difficulty with the mental strategies involved in memorization and retrieving information from memory
- * has trouble initiating activities or tasks, or generating ideas independently
- * has difficulty retaining information while doing something with it; e.g., remembering a phone number while dialing.

These problem behaviors are often the descriptors we hear about students with learning disabilities (LD) as well as those with AD/HD and language processing disorders.

For individuals with LD, problems with executive functioning are often complicated by performance anxiety. Feeling anxious about what to do and how well you're doing (especially when, as is the case with LD, you are "winging it" without a strategy or plan of attack) can easily lead to feeling overloaded and overwhelmed. This in turn leads to exhaustion, inattentiveness, and a cycle of insecurity and feeling out of control. Not a great scenario for learning!

3. www.ldonline.org/ldbasics/whatisld

LD Online is the world's leading learning disability website. The site caters to both adults and children with learning disabilities. Some of the resources that can be found on LD Online include a glossary, a FAQ section, instructional strategies, book recommendations and expert advice.

High School Students and Adults

- Continues to spell incorrectly, frequently spells the same word differently in a single piece of writing
- Avoids reading and writing tasks
- Trouble summarizing
- Trouble with open-ended questions on tests
- Weak memory skills
- Difficulty adjusting to new settings
- Works slowly
- Poor grasp of abstract concepts
- Either pays too little attention to details or focuses on them too much
- Misreads information

LD Basics What is a Learning Disability?

A learning disability is a neurological disorder. In simple terms, a learning disability results from a difference in the way a person's brain is "wired." Children with learning disabilities are as smart as or smarter than their peers. But they may have difficulty reading, writing, spelling, and reasoning, recalling and/or organizing information if left to figure things out by themselves or if taught in conventional ways.

A learning disability can't be cured or fixed; it is a lifelong issue. With the right support and intervention, however, children with learning disabilities can succeed in school and go on to successful, often distinguished careers later in life.

Parents can help children with learning disabilities achieve such success by encouraging their strengths, knowing their weaknesses, understanding the educational system, working with professionals and learning about strategies for dealing with specific difficulties.

Not all great minds think alike

Did you know that Albert Einstein couldn't read until he was nine? Walt Disney, General George Patton, and Vice President Nelson Rockefeller had trouble reading all their lives. Whoopi Goldberg and Charles Schwab and many others have learning disabilities which haven't affected their ultimate success.

Facts about learning disabilities

- Fifteen percent of the U.S. population, or one in seven Americans, has some type of learning disability, according to the National Institutes of Health.
- Difficulty with basic reading and language skills are the most common learning disabilities. As many as 80% of students with learning disabilities have reading problems.
- Learning disabilities often run in families.
- Learning disabilities should not be confused with other disabilities such as mental retardation, autism, deafness, blindness, and behavioral disorders. None of these conditions are learning disabilities. In addition, they should not be confused with lack of educational opportunities like frequent changes of schools or attendance problems. Also, children who are learning English do not necessarily have a learning disability.

- Attention disorders, such as Attention Deficit/Hyperactivity Disorder (ADHD) and learning disabilities often occur at the same time, but the two disorders are not the same.

Common learning disabilities

- Dyslexia – a language-based disability in which a person has trouble understanding written words. It may also be referred to as reading disability or reading disorder.
- Dyscalculia – a mathematical disability in which a person has a difficult time solving arithmetic problems and grasping math concepts.
- Dysgraphia – a writing disability in which a person finds it hard to form letters or write within a defined space.
- Auditory and Visual Processing Disorders – sensory disabilities in which a person has difficulty understanding language despite normal hearing and vision.
- Nonverbal Learning Disabilities – a neurological disorder which originates in the right hemisphere of the brain, causing problems with visual-spatial, intuitive, organizational, evaluative and holistic processing functions.

What is ADHD? Is It a Type of LD?

By: Larry B. Silver, M.D. (2002)

Attention Deficit Hyperactivity Disorder is a neurologically-based disorder caused by a deficiency of a specific neurotransmitter (norepinephrine and/or its precursors, dopa and dopamine) in a specific set of brain circuits. Depending on which areas of these circuits are involved, the individual might be hyperactive, distractible, or impulsive. Hyperactivity might involve up and down, fidgety, squirmy, wiggly behavior or might show only as fidgety hand movements. The distractibility might be to sound inputs, visual inputs, and/or to internal thoughts. Impulsivity might involve speaking before thinking, thus interrupting or calling out or might involve acting before thinking.

There are many reasons for these three behaviors, including anxiety or depression. Thus the diagnosis is not easy. There are no formal tests. The pattern of clinical history is used. If the hyperactivity, distractibility, and/or impulsivity started at a certain time (e.g. until third grade) or occurs only in specific settings (e.g., only at school or only when doing homework), the probable cause is anxiety or depression. ADHD is present at birth. Thus the history will be chronic and pervasive. These behaviors will have been present since early life and will exist in most of these behaviors that establishes the diagnosis.

The treatment involves raising the level of the deficient neurotransmitter. There are several medications that will accomplish this. One group works by increasing the production of the transmitter (Ritalin, dextroamphetamine, Adderall). The second group works by decreasing the breakdown of this transmitter; thus, whatever is produced stays around longer (imipramine, desipramine, nortriptyline).

Learning Disabilities are caused by "faulty wiring" in the cortex of the brain. The result is difficulty processing information. These processing problems might involve language, motor, cognitive, or executive functioning problems. The result will be problems with language, motor activity, reading, writing, math, organization, or other higher level tasks. Which disabilities an individual has will depend on the areas involved.

We cannot get rid of the faulty wiring; we have to help the individual learn how to learn with the disabilities. These interventions include remedial interventions, teaching compensatory strategies, and accommodations.

Thus, ADHD makes the individuals less available for learning because of the activity level, inattention, and/or impulsivity. LD makes the individual unable to learn in the normal way, requiring intervention strategies to learn how to learn. Medication will not help minimize the impact of LD. Special education services will not help minimize the impact of ADHD. Each requires proper recognition and specific treatments.

4. www.helpguide.org/mental/learning_disabilities.htm

What is a learning disability?

"He has the ability, if he just tried harder, he could do it. He chooses not to do the work."

"If she would just pay attention, she would get it."

"After I give the instructions, he sits there and stares at his paper. He is not motivated."

A child with a learning disability cannot try harder, pay closer attention, or improve motivation on their own; they need help to learn how to do those things. A learning disability, or learning disorder, is not a problem with intelligence. Learning disorders are caused by a difference in the brain that affects how information is received, processed, or communicated. Children and adults with learning disabilities have trouble processing sensory information because they see, hear, and understand things differently.

Math difficulties and learning disabilities

Learning disabilities in math vary greatly depending on the child's other strengths and weaknesses. A child's ability to do math will be affected differently by a language learning disability, or a visual disorder or a difficulty with sequencing, memory or organization. A child with a math-based learning disorder may struggle with memorization and organization of numbers, operation signs, and number "facts..." Children with math learning disorders might also have trouble with counting principles (such as counting by 2s or counting by 5s) or have difficulty telling time.

Language difficulties and learning disabilities

Language and communication learning disabilities involve the ability to understand or produce spoken language. Language is also considered an output activity because it requires organizing thoughts in the brain and calling upon the right words to verbally explain something or communicate with someone else.

Signs of a language-based learning disorder involve problems with verbal language skills, such as the ability to retell a story and the fluency of speech, as well as the ability to understand the meaning of words, parts of speech, directions, etc.

Reading difficulties and learning disabilities

There are two types of learning disabilities in reading. Basic reading problems occur when there is difficulty understanding the relationship between sounds, letters and words. Reading comprehension problems occur when there is an inability to grasp the meaning of words, phrases, and paragraphs.

Signs of reading difficulty include problems with:

- letter and word recognition
- understanding words and ideas
- reading speed and fluency
- general vocabulary skills

Writing difficulties and learning disabilities

Learning disabilities in writing can involve the physical act of writing or the mental activity of comprehending and synthesizing information. Basic writing disorder refers to physical difficulty forming words and letters. Expressive writing disability indicates a struggle to organize thoughts on paper.

Symptoms of a written language learning disability revolve around the act of writing and include. They include problems with:

- neatness and consistency of writing
- accurately copying letters and words
- spelling consistency
- writing organization and coherence

Auditory and visual processing:

The eyes and the ears are the primary means of delivering information to the brain, a process sometimes called “input.” If either the eyes or the ears aren’t working properly, learning can suffer and there is a greater likelihood of a learning disability or disorder.

Professionals may refer to the ability to hear well as “auditory processing skills” or “receptive language.” The ability to hear things correctly greatly impacts the ability to read, write and spell. An inability to distinguish subtle differences in sound, or hearing sounds at the wrong speed make it difficult to sound out words and understand the basic concepts of reading and writing.

Problems in visual perception include missing subtle differences in shapes, reversing letters or numbers, skipping words, skipping lines, misperceiving depth or distance, or having problems with eye–hand coordination. Professionals may refer to the work of the eyes as “visual processing.” Visual perception can affect gross and fine motor skills, reading comprehension, and math.

Common Types of Learning Disabilities

Dyslexia

- Difficulty processing language
- Problems reading, writing, spelling, speaking

Dyscalculia

- Difficulty with math
- Problems doing math problems, understanding time, using money

Dysgraphia

- Difficulty with writing
- Problems with handwriting, spelling, organizing ideas

Dyspraxia (Sensory Integration Disorder)

- Difficulty with fine motor skills
- Problems with hand–eye coordination, balance, manual dexterity

Auditory Processing Disorder

- Difficulty hearing differences between sounds
- Problems with reading, comprehension, language

Visual Processing Disorder

- Difficulty interpreting visual information
- Problems with reading, math, maps, charts, symbols, pictures

Learning disabilities: Related problems and issues

Sometimes kids have trouble expressing their feelings, calming themselves down, and reading nonverbal cues, which can lead to difficulty in the classroom and with their peers.

Academic challenges may lead to low self-esteem, withdrawal and behavior problems, but you can counter these things by creating a strong support system.

Can gifted children have learning disabilities?

Many gifted and talented children (and adults) are often misdiagnosed as having learning disabilities or behavior disorders. This occurs because there are many characteristics of gifted children, both social and emotional, that are mistaken as symptoms of specific learning disorders.

It is not uncommon for some gifted children (often those with IQ scores over 140) to display a significant discrepancy (20 points or more) between Verbal IQ and Performance IQ and possess characteristics of a learning disability. Often gifted children have unusual learning styles and, even though they are very intelligent, they may also have learning disorders.

5. The International Dyslexia Association (IDA) is a non-profit organization that focuses on helping individuals with dyslexia and their families. Some of the resources offered on IDA's website include a newsletter, a discussion forum and an online bookstore.

6. Funded by the U.S. Department of Education, the **National Dissemination Center for Children with Disabilities** provides information on disabilities, programs and services, special education laws and learning disability research. In addition to a huge selection of resources, the Center also provides specialists who can personally answer questions and concerns in English or in Spanish over the telephone (1-800-695-0285).

7. Managed by the U.S. Department of Labor's Office of Disability Employment Policy (ODEP) and 21 other federal agencies, **DisabilityInfo.gov** is the official government site for people with disabilities. In addition to state and local resources, users can also find information about Social Security disability benefits, job accommodations, vocational rehabilitation and other learning disability issues.

8. http://education-portal.com/articles/Top_Resource_Sites_for_Learning_Disabilities.html