FACTS AND STATISTICS ON LEARNING DISABILITIES AND LITERACY

Developed by Rochelle Kenyon, Ed.D.
Project Director - Florida's Bridges to Practice
A Project of Florida Human Resources Development, Inc.
A State Leadership Project Funded by the State of Florida, Office of Workforce Education
September 2003
FACTS

Learning Disabilities: An Overview

- Learning disabilities, as opposed to other disabilities such as vision impairment or paralysis, are invisible - or considered a hidden handicap. For this reason they tend to be misunderstood and their impact underestimated.

- Because learning disabilities cannot be seen, they often go undetected. Recognizing a learning disability is even more difficult because the severity and characteristics vary.

- Learning disabilities vary from person to person. One person with LD may not have the same kind of learning problems as another person with LD.

- Learning disabilities are real. A person can be of average or above-average intelligence, not have any major sensory problems (like blindness or hearing impairment), and yet struggle to keep up with peers in their ability to learn.

- LD is a lifelong disorder that affects people's ability to either interpret what they see and hear or to link information from different parts of the brain. These limitations can show up in many ways--as in the ability to understand or use spoken and written language, mathematical calculations, coordination, self-control, or attention. These difficulties impact academic skills and can impede learning to read or write, or compute.

- LD is a neurobiological disorder that affects the brain's ability to receive, process, store, express, and respond to information.

- With LD a person's brain works or is structured differently. Differences interfere with a person's ability to think and remember. Learning disabilities can affect a person's ability to speak, listen, read, write, spell, reason, recall, organize information, and calculate.

- LD affects many parts of a person's life: school or work, daily routines, family life, and friendships or in social contexts. Overlapping learning disabilities may be apparent in some while others may have a single, isolated mild learning problem that has little impact on other areas of life.

- Learning disabilities affect each person differently with characteristics ranging from mild to severe. Sometimes people have more than one learning disability.

- Although learning disabilities can occur in very young children, the disorders are not usually recognized until problems are recognized at school.

- LD is not a single disorder. It is a term that refers to a group of disorders.
Definitions of Learning Disability

- Learning Disabilities are a general set of disorders that can affect a person’s ability in the areas of listening, speaking, reading, writing, and mathematics.

- The Coordinated Campaign for Learning Disabilities (CCLD), a coalition of national organizations within the learning disabilities community, defines LD as “a neurobiological disorder in which a person’s brain works or is structured differently.”

- Bridges to Practice, a national learning disabilities and literacy initiative, defines LD as “a neurological problem often genetic that affects the way that persons process visual, auditory, or other sensory information.”

- The U.S. Office of Education defined LD in 1977 as “a permanent-information processing deficit (disorder) that affects the manner in which individuals with average to above average intelligence learn. Deficits in areas such as reading, mathematics and written language are presumed to be due to a central nervous system dysfunction. Learning disabilities occur regardless of gender, race, or ethnic origin and they are not the result of a poor academic background, mental retardation, or emotional disorders.”

- The same definition as above appears in the document, “How to Request Accommodations When Taking the GED High School Equivalency Tests if You Have a Learning Disability” as published by the GED Testing Service of the American Council of Education.

- Hamil defines LD in the 1990 Journal of Learning Disabilities article “On Defining Learning Disabilities: An Emerging Consensus” [23 (2), 74-84]. “LD is a generic term that refers to a heterogeneous group of disorders manifested by significant difficulties in the acquisition and use of listening, speaking, reading, writing and reasoning abilities...Even though a learning disability may occur concomitantly with other disabling conditions (e.g. sensory impairment, mental retardation, social and emotional disturbance) or environmental influences (e.g. cultural differences or insufficient/inappropriate instruction) it is not the direct result of those conditions or influences.”

- According to the Learning Disabilities Association of America, “Specific learning disabilities (SLD) is a chronic condition of presumed neurological origin which selectively interferes with the development, integration and/or demonstration of verbal and/or nonverbal abilities...(It exists) as a distinct handicapping condition and varies in its manifestations and in degree of severity. Throughout life, the condition can affect self esteem, education, vocation, socialization and/or daily living activities.”

- Individuals with Disabilities Education Act (IDEA), the federal law that provides for special education, defines “SLD as a disorder in one or more of the basic psychological processes involved in understanding or using spoken or written language. Skills of listening, speaking, reading, writing, and/or mathematics may be negatively affected.”

- The Federal definition states that learning disabilities include “such conditions as perceptual disabilities, brain injury, minimal brain dysfunction, dyslexia, and developmental aphasia.” According to the law, learning disabilities do not include learning problems that are primarily the result of visual, hearing, or motor disabilities; mental retardation; or environmental, cultural, or economic disadvantage. Definitions of learning disabilities also vary among states.
What Learning Disabilities Are Not

• Persons with learning disabilities are not “lazy” or “dumb.” In fact, they usually have average or above average intelligence. Often they fall within the range or “gifted.” Their brains just process information differently.

• Attention disorders, such as Attention-Deficit/Hyperactivity Disorder and learning disabilities often occur at the same time, but they’re not the same.

• Learning disabilities are not the same as mental retardation and do not signify low intelligence.

• Learning disabilities are not the same as autism, hearing or visual impairment, physical disabilities, or emotional disorders.

• Learning disabilities are not the same as the normal process of learning a second language.

• Learning disabilities aren’t caused by lack of educational opportunities, such as frequent changes of schools, poor school attendance, or lack of instruction in basic skills.

• Learning disabilities are not caused by economic disadvantage, environmental factors or cultural differences. In fact, there is frequently no apparent cause for LD.

• A learning disability is not a disease, so there is no cure, but there are ways to overcome the challenges it poses through identification and accommodation.

• Dyslexia does not mean that the person sees words “backwards.”
What are Characteristics of Learning Disabilities?

- An important requirement in the diagnosis of learning disabilities is the discrepancy between intelligence, or one’s ability to perform, and their actual performance.

- There is no one sign that shows a person has a learning disability. Characteristics that may be apparent include:
  
  ✔ trouble learning the alphabet, rhyming words, or connecting letters to their sounds;
  ✔ problems identifying individual sounds in spoken words;
  ✔ not reading for pleasure;
  ✔ not making use of reading to gather information;
  ✔ making many errors when reading aloud, and repeating and pausing often;
  ✔ focusing on word recognition to such a degree that it detracts from reading comprehension;
  ✔ not understanding what he or she reads;
  ✔ showing persistent problems with spelling;
  ✔ having sloppy handwriting that is difficult to read or holding a pencil awkwardly;
  ✔ struggling to express ideas and communicate in writing;
  ✔ learning language late, lacking complex language and having a limited vocabulary;
  ✔ having trouble remembering the sounds that letters make or hearing slight distinctions between words;
  ✔ having trouble understanding jokes, comic strips, and sarcasm;
  ✔ having difficulty with non-literal or figurative language such as metaphors, idioms and sarcasm;
  ✔ having trouble following directions;
  ✔ mispronouncing words or using a wrong word that sounds similar;
  ✔ having difficulty with verbal memory and processing large amounts of spoken language;
  ✔ having trouble organizing what he or she wants to say or not being able to think of the word needed for writing or conversation;
  ✔ not following the social rules of conversation, such as taking turns, and standing too close to the listener;
  ✔ confusing math symbols, misreading numbers, or difficulty retrieving math facts;
  ✔ having visual-spatial deficits and ineffective use of visual imagery;
  ✔ having difficulties in language processing that affect math problem-solving;
  ✔ difficulty retelling a story in order (what happened first, second, third);
  ✔ not knowing where to begin a task or how to go on from there;
  ✔ having a distinct gap between the level of achievement that is expected and what is actually being achieved;
  ✔ having problems with abstract reasoning;
  ✔ making impulsive decisions and judgments;
  ✔ difficulties with socio-emotional skills and behavior;
  ✔ a lack of “executive functions,” including self-motivation, self-reliance, self-advocacy and goal-setting; or
  ✔ problems with attention, which may be accompanied by hyperactivity, distractibility or passivity.
Dyslexia and Reading Disorders

Dyslexia is:

- a distinct learning disability - a specific language-based disorder of constitutional origin characterized by difficulties in single word decoding, reflecting insufficient phonological processing. Single word decoding difficulties are often unexpected in relation to age and other cognitive and academic abilities, not the result of developmental disability or sensory impairment. Dyslexia is manifested by variable difficulty with different forms of language including problems in acquiring reading, writing, and spelling. (Source: International Dyslexia Association)

- Dyslexia occurs on a continuum from mild to severe.

- There is a hereditary factor in dyslexia - the disorder may run in families.

- Dyslexia is widespread with upwards of 15-20% of school-age children affected.

- Difficulties with basic reading and language skills are the most common learning disabilities. As many as 80% of students with LD have their problems in reading.

- Someone with LD can have problems in any of the tasks involved in reading. However, scientists found that a significant number of people with dyslexia share an inability to:
  - distinguish, identify, or separate the sounds in spoken words;
  - learn all the various sound combinations for the symbols - weak sound/symbol knowledge;
  - recognize the sounds associated with letters; and
  - blend the sounds together to recognize a word.

- Other common problems experienced by people with dyslexia include:
  - reversing or mis-sequencing letters or numbers within words when reading or writing (b/d, brid/bird, on/no);
  - translating printed words into spoken words with ease, beginning reading skills (decoding);
  - inability to identify the word "bat" by sounding out the individual letters, b-a-t;
  - trouble with rhyming games, such as rhyming "cat" with "bat;"
  - forming images or relating new ideas to those stored in memory;
  - focusing attention on the printed marks and controlling eye movements across the page;
  - building ideas and images;
  - understanding or remembering new concepts;
  - comparing new ideas to what one already knows;
  - mastering word identification;
  - understanding words and grammar;
  - reading fluently; and
  - problems in comprehension that go beyond word recognition; limited language skills that affect comprehension.
Dysgraphia and Writing Disorders

Dysgraphia is:

a neurological disorder that is characterized by writing disabilities and difficulty with the mechanics of writing. It is a form of dyspraxia or motor clumsiness. The cause of the disorder is unknown.

- Many individuals with learning disabilities have difficulties with written expression. These problems are often found in combination with reading and spoken language difficulties.

- Some symptoms associated with it include:
  - disorganization in writing;
  - trouble getting good ideas down on paper;
  - lacks a clear purpose for writing
  - difficulty with physical activities;
  - being a messy eater;
  - poor and distorted handwriting that is difficult to read;
  - inappropriately sized and spaced letters;
  - poor drawing capabilities;
  - persistently wrong or odd spelling despite instruction;
  - production of words that are not correct (i.e., using "boy" for "child"); and
  - inappropriate use of text structures.

- Writing difficulties can continue after other learning problems have been accommodated.

Dyscalculia and Math Disorders

Dyscalculia is:

profound difficulties in learning concepts in math, despite instruction, good intelligence, and sound sensory functioning. In some instances, individuals with LD have average or above-average math skills. For others, math is the primary area of disability or an area of disability in addition to other problems, such as a reading disability. These difficulties may not be apparent early in a child's development, but become noticeable by the time math processes become more complex, around 5th or 6th grade. Dyscalculia can have a major impact in many aspects of an adult's life, including managing money. It results from difficulties with complex, spatial reasoning.

- An individual with dyscalculia may have one or more of the following characteristics:
  - does not remember and/or retrieve math facts;
  - does not use visual imagery effectively;
  - has a visual-spatial deficit;
  - is confused with math operations, especially multi-step processes; and
  - has difficulties in language processing that may affect the ability to complete math problem solving.
How are Learning Disabilities Formally Diagnosed?

- Learning disability is defined as a significant gap between a person's intelligence and the skills the person has achieved at each age.

- If a severely retarded 16-year-old speaks like a 5-year-old child, he will probably not have a speech or language disability since his skills are commensurate with the limits of his intelligence. However, if a seventh grade girl with an IQ of 120 can't write a short, simple paragraph, she may have a learning disability.

- The first step in the process is awareness of the characteristics associated with LD.

- The identification phase would follow if there is reason to think a person might have LD. Observations in school, at home, and in social settings would be collected so that first-hand data is available.

- If the data indicates troubling patterns rather than just isolated difficulties, the next step might be a screening tool to answer the question “Should this person be referred for diagnostic assessment.”

- Not all learning problems are necessarily learning disabilities. Many children are simply slower in developing certain skills so what might appear as a learning disability may in fact be a delay in maturation. For elementary-age students, a two-year delay may be significant whereas older students might require more than a two-year delay to be significant.

- To be diagnosed as a learning disability, specific criteria must be met. Actual diagnosis is made by a licensed professional using standardized tests that compare the person's level of ability to what is considered normal development for someone of that age and intelligence.

- Factors that affect test outcomes include the person’s actual abilities, the reliability of the test instrument, and his ability to understand the directions, questions, and pay attention during the testing session.

- Learning disabilities are diagnosed in different ways.
  - Vision and hearing are always tested to rule out sensory impairment and assure that the person can see and hear clearly.
  - Academic skills disorders, reading, math, and writing are evaluated using standardized tests.
  - Intelligence testing is completed by a psychologist.
  - Pronunciation, vocabulary, and grammar are compared to the developmental abilities of same-age peers to diagnose speech and language disorders.
  - Medical doctors check for ear infections or throat and vocal cords problems.

- Once all other possible factors that might have caused the learning problems are eliminated, diagnosis of a learning disability might be made.
• The criteria and characteristics for diagnosing LD appear in a reference book called the *Diagnostic and Statistical Manual of Mental Disorders — Fourth Edition (DSM-IV)*. The DSM diagnosis is commonly used by doctors, psychologists, rehabilitation specialists, counselors, school psychologists, etc.

• There is no DSM diagnosis named ‘learning disability’ but academic disorders in reading, mathematics, and written expression are described.

• In order to be diagnosed with a learning disability, standardized test scores for academic achievement must be substantially below expectations for the student’s chronological age, intelligence, and age-appropriate education.

• The DSM diagnosis will qualify one for accommodations in school and in standardized testing such as on the GED Tests.

• Diagnosis of LD may be made at any age throughout one’s life. Many times it is not diagnosed during the elementary through high school years and adults will struggle as a result, never knowing the reason for their problems.

• Once diagnosed, a person can get the necessary treatment and accommodations necessary to help alleviate the barriers to learning. It is never too late to get help for a learning disability.

• For those with undiagnosed learning disabilities, many have developed coping skills and compensatory strategies to help deal with their difficulties. Many are functioning successfully because of the strengths upon which they can capitalize.
What are the Causes of Learning Disabilities?

- Much research is now being done to determine causes of learning disabilities. Experts are not yet sure as to the cause. In simplified terms it is thought to be caused by differences in how a person's brain works and how it processes information. What was once thought of as a simple neurological problem has now been proven to be more complex.

- New evidence seems to show that most learning disabilities do not stem from a single, specific area of the brain, but from difficulties in bringing together information from various brain regions causing subtle disturbances in brain structures and functions.

- The three general categories of causation can be classified as: 1) heredity, 2) problems during pregnancy and birth, and 3) incidents after birth.

  - Heredity
    - Genetic factors
    - Heredity aspect to LD so it often runs in the family
    - Not uncommon to find that people with LD have parents, children, or other relatives with similar difficulties

  - Problems during pregnancy and birth
    - Injury or illness during or before birth
    - Tobacco use during pregnancy
    - Alcohol use during pregnancy - dangerous to the fetus' developing brain and may distort the developing neurons
    - Fetal alcohol syndrome - condition that can lead to low birth weigh, intellectual impairment, hyperactivity, and physical defects
    - Low birth weight - those weighing less than 5 pounds tend to be at risk for a variety of problems including learning disorders
    - Drug use during pregnancy - cocaine and its smokable form known as crack--seem to affect the normal development of brain receptors that help to transmit incoming signals from our skin, eyes, and ears
    - Lack of oxygen to fetus - possibly from twisted umbilical cord
    - Mother's faulty immune system may react to the fetus and attack it as if it were an infection
    - Premature or prolonged labor

  - Incidents after birth
    - Head injuries
    - Poor nutrition/diet
    - Exposure to toxic substances (i.e., cadmium and lead)
    - Cancer treatment with chemotherapy or radiation at an early age - especially to the skull
What Are Attention Disorders?

- Attention disorders, with or without hyperactivity, are not considered learning disabilities in themselves. They often co-exist with LD but are different disorders.

- Attention disorders affect mostly boys and are accompanied by hyperactivity.

- Without the hyperactivity component attention disorders may be manifested by signs of boredom.

- Because attention problems can seriously interfere with school performance, they often accompany academic skills disorders.

- Attention disorders affect ability to concentrate, stay focused, attend to task, and stay seated.

- Approximately one third of people with LD also have Attention Deficit Hyperactivity Disorder (ADHD).

- Attention Deficit Hyperactivity Disorder (ADHD) is the most common behavior disorder diagnosed in children and teens. ADHD refers to a group of symptoms that begin in early childhood and can continue into adulthood, causing difficulties at home, at school, at work, and within the community if not recognized and treated.

- ADHD is diagnosed through observation and by checking for the long-term presence of specific behaviors such as constant fidgeting, losing things, interrupting, and talking excessively.

- Three groups of symptoms associated with ADHD include:
  1) inattention (daydreams excessively; easily distracted; affects focus, memory, and organization);
  2) impulsiveness (acts without thinking, poor judgment and problem solving, interrupts without being able to wait for turn); and
  3) hyperactivity (constant movement, explosive energy, restlessness, fidgety, and difficulty working/playing with others).

- Hyperactivity usually subsides into fidgeting and restlessness by adolescence but attention problems and poor concentration can still plague adults.

- ADHD is treated with drug therapy (i.e., Ritalin, Concerta, Straterra) and behavior therapy.
Quick Facts About Learning Disabilities

- "Specific learning disability" (SLD) is the term used in the federal law for any LD.
- LD is a broad term that covers a myriad of possible causes, symptoms, treatments, and outcomes.
- Learning disabilities are specific neurological disorders that affect the brain's ability to store, process, or communicate information.
- Learning disabilities can affect different aspects of learning and functioning.
- Difficulties with basic reading and language skills are the most common learning disabilities.
- Learning disabilities affect girls as frequently as they do boys.
- People with LD don’t “outgrow” it.
- Learning disabilities may be inherited and often runs in families.
- Learning disabilities are difficult to diagnose because they manifest themselves in so many different forms.
- It is difficult to pinpoint the causes of learning disabilities.
- Learning disabilities can occur ‘co-morbidly’ with other disorders (i.e., Attention Deficit Hyperactivity Disorder, Manic Depression, Anxiety Disorder, and Information Processing Disorders).
- In reading instruction, the most commonly recognized type of LD is dyslexia.
- Difficulty learning to read is the most prominent characteristic associated with LD.
- A learning disability can't be ‘fixed’ or cured with a pill or other remedy.
- LD is a lifelong issue.
- Learning disabilities are not the result of inferior instruction, economic disadvantage, environmental factors, or cultural differences.
- People can be diagnosed as having more than one area of learning disability.
- Persons with LD can be high achievers and can be taught ways to reduce obstacles and barriers caused by their disability.
- With support and intervention, people with LD can be successful in learning and life.
• According to the U.S. Department of Education, learning disabilities affect approximately 5% of all children enrolled in public schools.

• Current research efforts focus on developing techniques to diagnose and treat learning disabilities and increase understanding of their biological basis.

• People can learn to compensate for specific deficits and even overcome through alternate ways of learning, accommodations, and modifications.

• Learning disabilities are not synonymous with other disabilities such as mental retardation, autism, deafness, blindness, and behavioral disorders.

• Problems associated with the lack of educational opportunities like frequent changes of schools or attendance problems are not synonymous with learning disabilities.

• Persons who are learning English do not necessarily have a learning disability.

• Under the Individuals with Disabilities Education Act (IDEA) of 1997 and Americans with Disabilities Act (ADA) of 1990, people with learning disabilities of all ages are protected against discrimination and are entitled to accommodations in the classroom and workplace.

• An adult with dyslexia can be taught to read with more time and more repetition, and appropriate, individualized research-based teaching methods.

• A variety of literacy and adult education programs sponsored by libraries, public schools, community colleges, private and nonprofit tutoring, and learning centers are available to help adults with LD develop skills in reading, writing, and math.
Statistics

• 30 - 50% of the population has undiagnosed learning disabilities. (Source: National Institute for Literacy)


• 2.9 million school-age children (ages 6 through 21) in the U.S. (5% of all school-aged children in public schools) are classified as having specific learning disabilities (SLD) and receive some kind of special education support. These numbers do not include children in private and religious schools or home-schooled children. (Source: 23rd Annual Report to Congress, U.S. Department of Education, 2001)

• Estimates are that children with learning disabilities or attention deficit hyperactivity disorder (ADHD) compose between 10% - 15% of the school-age population and represent over half the children who receive special education services in the United States. (Source: National Institutes of Health)

• Since 1992, the percentage of students who spend 80% or more of their time in school in special education classes increased from 21% to 45%. (Source: 23rd Annual Report to Congress, 2001)

• 51% of students receiving special education services through the public schools are identified as having learning disabilities. (Source: 23rd Annual Report to Congress, 2001)

• Specific learning disabilities have increased 22% over the past 25 years. In the past decade, the number of students ages six to 21 years identified with specific learning disabilities has increased by 38%. (Source: National Institutes of Health, 2003 - http://grants2.nih.gov/grants/guide/rfa-files/RFA-HD-02-031.html)

• In 2001, 1% of white children and 2.6% of non-Hispanic black children were receiving LD-related special education services. (Studies suggest that this has to do with economic status and not ethnic background.)

• 44% of parents who noticed their child exhibiting signs of difficulty with learning waited a year or more before acknowledging their child might have a serious problem. (Source: Roper Starch Poll - Measuring Progress in Public and Parental Understanding of Learning Disabilities)

• 27% of children with learning disabilities drop out of high school. (Source: 23rd Annual Report to Congress, 2001)
• 35% of children with learning disabilities drop out of high school. This is twice the rate of students without LD. Of those who do graduate, less than 2% attend a four-year college, despite the fact that many are above average in intelligence. (Source: National Longitudinal Transition Study)

• Only 13% of students with learning disabilities (compared to 53% of students in general population) have attended a 4-year post-secondary school program within two years of leaving high school. (Source: National Longitudinal Transition Study, 1994)

• 40% of full-time college freshmen with disabilities attending 4-year colleges reported having a learning disability. (Source: Heath Resource Center, 2001)

• 29% of undergraduate students with disabilities reported having a learning disability. (Source: National Center for Education Statistics, 2000)

• 196,000 of the 428,000 students with disabilities enrolled at two-year and four-year postsecondary education institutions reported having learning disabilities. (Source: National Center for Education Statistics - http://nces.ed.gov)

• Of the 6% of all undergraduate students who reported having a disability, 29% reported having LD. (Source: National Center for Education Statistics - http://nces.ed.gov)

• 29.3% of students with reported learning disabilities who received bachelor’s degrees applied to graduate school compared to approximately 40% in the overall population. (Source: National Center for Education Statistics - http://nces.ed.gov)

• Approximately 85% of all individuals with learning disabilities have difficulties in the area of reading. (Source: National Institute of Child Health and Human Development - http://www.nichd.nih.gov/publications/pubs/readbro.htm)

• 50 - 80% of students in ABE and literacy programs with low reading skills (below 5th - 7th grade level) may have either a suspected or diagnosed learning disability (Source: Bridges to Practice - http://novel.nifl.gov/nald/workplac.htm).

• 25 - 40% of those on government assistance programs may have learning disabilities. (Source: Bridges to Practice)

• 43% of learning disabled are living at or below the poverty level. (Source: Bridges to Practice)

• By adding poverty and under-employment or unemployment figures with low literacy functioning and educational attainment, the prevalence of learning disabilities doubles, i.e., from 15% to 30%. Thus, the prevalence rate for adults with LD among TANF recipients was approximately 30%. (Source: State of Kansas)

• 48% of those with learning disabilities are out of the workforce or unemployed. (Source: Bridges to Practice)