

Chapter 5: Learning Disabilities

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Summary

Definitions of learning disabilities:

- Federal definition: IDEA has given the following definition -
“In general- the term ‘specific learning disability’ means a disorder in 1 or more of the basic psychological processes involved in understanding or in using language, spoken or written, which disorder may manifest itself in an imperfect ability to listen, think, speak, read, write, spell or to do mathematical calculations.

Disorders included- such term includes such conditions as perceptual disabilities, brain injury, minimal brain dysfunction, dyslexia and developmental aphasia.

Disorders not included- Such term does not include a learning problem that is primarily the result of visual, hearing, or motor disabilities, of mental retardation, of emotional disturbance, or of environmental, cultural or economic disadvantage.”

There are 3 main criteria to identify students with learning disabilities and they are:

- (1) A severe discrepancy between the students’ intellectual disability and academic achievement. The most common practice for identifying children with learning disabilities is to determine if a severe discrepancy exists between their expected and actual achievement.
 - (2) An exclusion criterion: the student’s difficulties are not the result of another known condition that can cause learning problems. It means that learning disabilities can coexist with other disabilities and in that case, the student receives services under the other disability category.
 - (3) A need for special education services: as they show specific and severe learning problems despite standard education efforts.
- National Joint Committee on Learning Disabilities definition: “Learning disabilities is a general term that refers to a heterogeneous group of disorders manifested by

significant difficulties in the acquisition and use of listening, speaking, reading, writing, reasoning or mathematical abilities. These disorders are intrinsic to the individual and presumed to be due to central nervous system dysfunction, and may appear across the life span. Problems in self regulatory behaviors, social perception, and social interaction may exist with learning disabilities but do not themselves constitute a learning disability. Although learning disabilities may occur concomitantly with other handicapping conditions (for e.g. sensory impairment, mental retardation, serious emotional disturbance) or with extrinsic influences (such as cultural differences, insufficient or inappropriate instruction), they are not the result of those conditions or influences.”

Characteristics:

- Reading problems: about 80% of children identified as learning disabled are referred for special education because of reading problems. Evidence suggests that specific learning disability, sometimes called dyslexia, is a persistent deficit and not just a lag in linguistic or basic reading skills. According to the International Dyslexia Association, dyslexia is “a specific learning disability that is neurobiological in origin. It is characterized by difficulties with accurate and/or fluent word recognition and by poor spelling and decoding abilities. These difficulties typically result from a deficit in the phonological component of language that is often unexpected in relation to other cognitive abilities and the provision of effective classroom instruction.” Phonologic awareness refers to the “conscious understanding and knowledge that language is made up of sounds”. The most important aspect of phonological awareness for learning to read is phonemic awareness, the knowledge that words consist of separate sounds, or phonemes, and the ability to manipulate these individual sound units. Many children and adults with dyslexia also show a deficit in ‘visual naming speed’ (the ability to rapidly name visually presented stimuli.)
- Written language deficits: They have problems with writing and spelling and they perform low on written expression tasks including the transcription of handwriting, spelling, punctuation, vocabulary, grammar and expository writing. Some students with learning disabilities are competent readers but struggle with written language. Many students with learning disabilities use a “retrieve and write” approach in which they retrieve from immediate memory “whatever seems appropriate and write it down” (De La Paz and Graham, 1997). As a result they produce poorly organized compositions containing a few poorly developed ideas.
- Math underachievement: Numerical reasoning and calculation pose major problems for many students with learning disabilities. Their performance is low on every type of arithmetic problem at every grade level.
- Social skills deficits: According to a study by Kavale and Forness (1996), 75% of students with learning disabilities exhibit deficits in social skills which leads to

rejection, low social status, fewer positive interactions with teachers, difficulty making friends and loneliness. However, some students with learning disabilities do not experience any problems in getting along with their teachers or peers. Some believe that these contradictory findings show that social competence and peer acceptance are not characteristics of learning disabilities but are outcomes of the different social climates created by teachers, peers, parents and others with whom students with learning disabilities interact.

- Attention problems and hyperactivity: students with learning disabilities may be diagnosed with attention deficit hyperactivity disorder (ADHD). A high degree of comorbidity (two conditions occurring in the same individual) between learning disabilities and ADHD has frequently been reported. A national study found out that 28% of middle school students with learning disabilities also have ADHD.
- Behavioral problems: students with learning disabilities are found to have higher occurrences of behavioral problems. A comparative study of more than 600 adolescents with and without learning disabilities found a higher frequency of risk-taking behaviors such as smoking, marijuana use, delinquency, acts of aggression, and gambling among youth with learning disabilities. However, the relationship between the students behavior problems and academic difficulties are not known. Many children with learning disabilities also do not display any behavioral problems.
- Low ratings of self efficacy: students with learning disabilities report lower levels of self efficacy, mood, effort, and hope. It is not known whether this is an inherent characteristic or the result of a painful history of frustration and disappointment.
- The defining characteristic: The difference between what students with disabilities are expected to do and what they can do grows larger and larger over time. The performance gap becomes esp. noticeable and handicapping in the middle and secondary grades, when the academic growth of many students with disabilities plateaus. By the time they reach high school, students with learning disabilities are the lowest of the low achievers, performing below the 10th percentile in reading, writing language and math. The difficulties faced by them usually lasts throughout their life span.

Prevalence: Learning disabilities is the largest of all special education categories. According to the US Dept. of Education 2011, 42.3% of all school age children with disabilities had learning disabilities which are 4% of the school age population. Across grade levels, males with learning disabilities outnumber females by a 3:1 ratio.

Causes:

- Brain damage or dysfunction
- Heredity
- Biochemical imbalance

- Environmental factors (mainly impoverished living conditions).

Identification and assessment

- Curriculum Based Measurement (CBM): CBM entails measuring the growth of student's proficiency in the core skills that contribute to success in school. CBM is characterized by multiple, ongoing measures of child performance over time and instructional decision making based on visual inspection of graphs of those data. One study found that teachers who used CBM made an average of 2.5 changes in student's instructional plans over the course of 20 weeks compared to an average of just 0.27 changes by teachers who were not using CBM. Studies have also shown that students whose teachers use CBM perform and achieve better academically than do students whose teachers do not use it. One set of CBM's is the Dynamic Indicators of Basic Early Literacy Skills (DIBELS). It consists of a set of 1 minute fluency measures used to regularly monitor the development of a pre reading and early reading skills. Research has shown that children who meet or exceed the benchmark goal for each measure are likely (odds greater than 80-90%) to become proficient readers.
- Identifying learning disabilities by assessing response to intervention: The basic premise of response to intervention (RTI) is that measuring a low-achieving student's response to increasingly intensive, scientifically validated instruction can determine whether the child's struggles to learn are the result of poor or insufficient instruction or of a disability for which special education is needed. RTI has two functions: screening/ identification and prevention. CBM is the primary approach of progress monitoring in RTI. A three tier approach to RTI can be used to prevent reading problems/ identify students with learning disabilities:
 - i) Tier 1: Primary intervention in the general education classroom- it is provided to all students in the form of evidence based curriculum and instruction in the general education classroom. Students are considered at risk if both their level of performance and rate of growth on the CBM are well below those of their classmates. At risk students who have problems in tier 1 are moved to tier 2.
 - ii) Tier 2: secondary intervention- students who are struggling in the general education program receive an intensive fixed-duration trial e.g. 10 to 12 weeks of small group supplemental tutoring using a research validated program. A student who makes satisfactory progress during this intensive prevention trial is deemed disability free and returned to the original classroom environment.
 - iii) Tier 3: tertiary intervention- in most RTI models, tier 3 is special education. Some special educators recommend that students who do not make progress with small group intervention in tier 2 receive intensive individualized interventions prior to a determination of special education eligibility.

- Intelligence and achievement tests: Through such tests, students' scores can be compared with scores of other students of the same age who have taken the test. Some well known standardized tests are Iowa Tests of Basic Skills, the Peabody Individual Achievement Test, the Woodcock-Johnson III Tests of Achievement, and the Wide Range Achievement Test. Some reading achievements tests include the Gates MacGinitie Reading tests, the Gray Oral Readings Tests, the test of Reading Comprehension and the Woodcock Reading Mastery Test.
- Criterion referenced tests- in these tests, the child's score is compared with a predetermined criterion or mastery level, rather than with normed scores of other students. They identify the specific skills the child has already learned and the skills that require instruction. One widely used Criterion referenced test is the Brigance Comprehensive Inventory of Basic Skills which includes nearly 400 criterion-referenced assessments in reading, language arts, and math.

Educational approaches:

- Content enhancement: It is a general term for a wide range of techniques teachers use to enhance the organization and delivery of curriculum content so that students can better assess, interact with, comprehend and retain the information. The teacher must plan a lesson that effectively teaches what the students should learn as well as how. Content enhancements often helpful to students with learning disabilities include:
 - (1) Graphic organizers and visual displays: they are visual spatial arrangements of information containing words or contents connected graphically which improve the comprehension of students with learning disabilities.
 - (2) Note-taking strategies : the listening, language and motor skill deficits of many students with learning disabilities make it difficult for them to identify what is important during a lecture and write it down (take notes) correctly. There are two types of note taking: (1) strategic note taking which involves specially designed note paper cues such as 'what do you already know about this topic?' or 'list new vocabulary and terms' and;(2) guided notes which are teacher prepared handouts that provide an outline of the lecture content, which students complete in class.
 - (3) Mnemonics: mnemonic strategies combine special presentation of information with explicit strategies for recall and are most often used to help students remember large amounts of unfamiliar information or make connections between two or more facts or concepts. Three strategies are:
 - (a) Letter strategies: they are acronyms and acrostics. For example, HOMES to remember the names of the Great Lakes- Huron, Ontario, Michigan, Erie and Superior. Or "Every good boy deserves fudge" to remember EGBDF, the notes on the five lines of the music staff.
 - (b) The keyword method: it's used to link an unfamiliar word with a familiar information. For example, to help students remember the Italian word 'strada'

means road, first, identify a keyword for strada that sounds like the new word but is familiar and easy to picture. 'straw' would be a good keyword because it's familiar and easy to picture. Next, draw a picture of a straw lying on the road. Finally, the teacher instructs the students to look at the picture and recall what they say in it. Thus, they will remember that 'strada' means 'road' by connecting their memory to the picture of the straw (keyword) lying on the road.

- (c) The pegword method: it employs rhyming words for numbers. For example, 1 is bun, two is shoe, three is tree etc. when information to be remembered is numbered or ordered. So, to remember that insects have six legs, create a picture of insects on sticks (rhymes with six).

Learning strategies: it can be defined as "an individuals' approach to a learning task. A strategy includes how a person thinks and acts when planning, executing and evaluating performance on a task and its outcomes" (Deshler and Lens, 1989). Students use task specific strategies to guide themselves successfully through a learning task or problem. A mnemonic is often used to help students remember the steps of a strategy. For example, a well researched strategy for writing is POW-TREE (Pick my idea, Organize my thoughts, Write and say more – Topic sentence [tell what you believe], Reasons [3 or more], Ending [wrap it up], Examine [have I included all the parts?])

Educational placement alternatives:

- General education classroom: IDEA requires that students with disabilities be educated with students without disabilities, have access to the core curriculum to the maximum extent possible, and that they be removed from the general education classroom only to the extent that their disability necessitates. Some studies show better performance of students with disabilities in the general classroom while other studies have shown disappointing results. According to Elbaum each student may be "profoundly affected by a placement that jeopardizes their self esteem" and that when making placement decisions for a child, individualized education program (IEP) team "should guard against a priori assumptions about the benefit or detriment of specific placements to students' self concept. Each student's social and emotional needs, as well as the student's own preference with regard to placement options, ought to be taken into account."
- Consultant teacher: a consultant teacher provides support to general education with classroom teachers and other staff members who work directly students with learning disabilities and helps the general education teacher select assessment devices, curriculum materials, and instructional activities. They may even demonstrate teaching methods or behavior management strategies.
- Resource room: It is a specially designed staffed and equipped classroom where students with learning disabilities come for one or several periods during the school day to receive

individualized instruction. A resource room teacher serves an average of 20 students with disabilities. They are certified special educators whose primary role is to teach needed academic skills, social skills and learning strategies to students who are referred to the resource room.

- **Separate classroom:** in a separate classroom, a special education teacher is responsible for all educational programming for 8 to 12 students with learning disabilities. The academic achievement deficiencies of some children with learning disabilities are so severe that they need full-time placement in a setting with a specially trained teacher. Students with poor work habits and inappropriate social behaviors are also placed in separate classrooms where distractions can be minimized and individual attention stressed.

Should all students with learning disabilities be educated in the general education classroom?

Professionals have supported the placement of students with learning disabilities in general education classroom to the maximum extent possible. For some students with learning disabilities, the general education classroom may be more restrictive than a resource room or special class placement when the instructional needs of the students are considered. Therefore, research has indicated that where a student is taught is not as important as the quality of instruction that student receives.