



Learning Disabilities: Assessment and Intervention

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ABSTRACT

'Learning disabilities (LDs) are heterogeneous group of disorders and children shows difficulty in reading, writing, and arithmetic. The prevalence of LDs is 9-39% in Indian population. Assessments of LDs based on its components are key factor in designing appropriate individualized intervention. Various models of assessments consist of discrepancy criteria, Intra-individual difference, and Response to Intervention. Interventions of LDs are classified into counseling & psychoeducation, remedial methods (multisensory instruction, learning modality approach, direct instruction, strategies instruction, and cooperative learning) cognitive remediation (PREP & COGENT) and psychotherapy.'

Keywords: Learning Disabilities, Assessment, Intervention

Introduction

Samuel Kirk proposed the term Learning Disability (LD) in 1963. Learning disabilities (LDs) is general term that refers to heterogeneous group of disorders manifested by significant difficulties in the acquisition and use of listening, speaking, reading, writing, reasoning or mathematics abilities. These disorders are intrinsic to the individual, presumed to be due to central nervous dysfunction and may occur across a life span. Problems in self-regulatory behaviors, social perception and social interaction may exist with LDs but do not by themselves constitute a LD. Although LDs may occur concomitantly with other handicapping conditions (for example, 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. (National Joint Committee Learning Disability, 1981)

Epidemiology

Gaddes & Edgell, 1933 reported 7-15 % of school going children has LD. In India, the magnitude of the problem and prevalence has not been fully understood (Suresh and Sebastian, 2003). However, the incidence of learning disability in school children varies from 9-39% (Kapur 1995). It is an alarming thought that in a school of 1000 children, about 100-300 could have a learning disorder. Mogasale, Patil, Patil & Mogasale (2011) conducted a prevalence study of specific learning disabilities among primary school children in a south Indian city reported the prevalence of specific learning disabilities was 15.17% in sampled children and 11.2 % of dyslexia, 12.5 % of dysgraphia and 10.5 % of dyscalculia also reported from the same study.

Types of Specific LD

Specific Learning Disabilities can be classified into three broad categories, they are

- Dyslexia – Impairment of reading
- Dysgraphia – Impairment of written expression
- Dyscalculia – Impairment of arithmetic

Myklebust (1975) and Rourke (1989) introduced another form of learning disability known as Non-verbal learning disability (NLD) and it is characterized as deficits in neuropsychological, socio-emotional and adaptive function.

Models of Assessment

Assessment of learning disabilities plays a significant role in intervention. Determining whether or not a child has a LD is a task about which there is little consensus at present (Gersten & Dimino, 2006; NJCLD, 2005). Various models have been discussed the experts in the field of LD, they are:

1. Discrepancy criteria model: LD has been described as “an educationally significant discrepancy between estimated intellectual potential and actual level of performance related to basic disorders in the learning processes.” (Kavale & Flanagan, 2007; Zirkel & Thomas, 2010).
2. Intra-individual difference Model: These models operationalize unexpected underachievement as specific impairments in cognitive processes with focus on variability in cognitive strengths and weaknesses displayed by individuals with LDs (Fletcher et. al., 2007, Kavale, 2002)
3. Response to intervention (RTI) Model: RTI is a multi-tiered approach to the early identification of students with academic or behavioral difficulties. Students will be screened initially and provided curriculum based instructions. The students will be monitored continuously for their progress and if they are not responding to the instructions again they will be considered for additional instructions. Based on the response to instructions they will considered for special education. (Fletcher et.al, 2002).

Assessment of LDs in Indian context follows the discrepancy approach. Assessment plays a significant role in management of LD. The process involves evaluation on tests of intellectual capacity, academic and scholastic achievement, psychological processes and tests to fulfill the exclusionary clause. Early identification based on LDs components using valid and reliable diagnostic tools help us to profile the strength and weakness of each child. It will help us to plan Individualized Education Program (IEP).

Intervention for Learning Disabilities (LDs)

Students with learning disabilities often find learning a difficult and painful process. The presence of their learning disability can make learning to read, write, and do math especially challenging. LDs interventions are considered as multi-disciplinary approach. LDs intervention should be tailor made according to the child's severity of problem. IEP help us to

establish significant difference in child. Decision regarding which instructional approach or intervention strategy to use should be determined with interdisciplinary, family and caregiver input on the basis of individual learner characteristics and needs (Paul-Brown & Caperton, 2001). The traditional intervention for learning disabilities are explained under the following heading

- Counseling & Psychoeducation
- Remedial Methods
- Cognitive remediation program (PREP and COGENT)
- Psychotherapeutic intervention

Counseling & Psychoeducation: It is important to counsel the children, parents and teachers to help them understand the difficulties and explain the need for intervention (Shah & Bhatt, 2009)

Remedial Methods: Using specific teaching strategies and teaching material, the special educator formulates an Individual Education Program to reduce, eliminate or preclude the child's deficiencies in specific learning areas such as reading, writing and mathematics identified during the child's educational assessment (Karande, 2008)

- Multisensory instruction:** It involves using all pathways to the brain simultaneously: particular visual, auditory, and kinesthetic-tactile (McIntyre & Pickering, 1995). Multisensory approaches to teaching students with learning/reading disabilities have been advocated (Fernald, 1943; Gillingham & Stillman, 1969).
- Learning Modality Approach:** Learning styles plays a significant role in learning. The learning modality approach to instruction is based on the assumption that learners have preferred modalities for learning and teaching that is redesigned to rely more directly on this preferred modality will help students learn more readily and rapidly.
- Direct Instruction:** The lessons are typically fast paced and follow a prescribed lesson plan involving systematic instruction (Engelmann et al., 1978)
- Strategies Instruction:** Poor academic performances across all ages in students with LD have been seen as a problem in the use of efficient strategies (Swanson, 1999).
- Cooperative learning (CL):** It refers to "the instructional use of small groups so that students work together to maximize their own and each other's learning" (Johnson et al., 1993)

Cognitive remediation program (PREP and COGENT): There are two remediation program were used as COGENT (Cognitive Enhancement Training) and PREP (PASS Reading Enhancement Program). COGENT and PREP based on the cognitive model of PASS (Planning, Attention, Simultaneous and Successive processing) developed by Das, Naglieri & Kirby in 1994.

PASS proposes cognition is organized in three systems. The first is planning system, which involves the executive control system responsible for controlling and organizing behavior, selecting or constructing strategies and monitoring performance. The second is attention system, which is responsible for maintaining arousal level and alertness and for ensuring focus on appropriate stimuli. Third system is the information system, which employs simultaneous and successive processing to encode, transform and retain information.

COGENT program was designed to integrate direct instruction in prerequisite reading skills and cognitive processing strategies. But, PREP is focusing on improving information processing strategies, especially simultaneous and successive processing, which are believed to underlie reading.

Psychotherapeutic interventions: Over the past 10 years, psychotherapy for people with LDs has been increasingly advocated and recent survey of the interventions used by clinical psychologists working within LD services in the UK suggests that psychotherapeutic interventions are now in widespread use (Linnington, 2002; Nagel & Leiper, 1999; Willner, 2005).

Psychotherapeutic intervention involves, self-regulation strategies, Problem solving approach, Instructional approach and Schema – based explicit transfer approach.

Conclusion: The effective evidence based interventions are very few with respect to each domain of learning disability. Major researches have demonstrated efficacy in terms of reading. Similarly, evidence based studies on management of LDs in Indian context are very less. Also, accurate diagnostic tests are required in vernacular language to diagnose and manage LDs.

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