

BLOCK: V
LEARNING DISABILITIES AND LEARNER'S NEEDS

Unit 1: Learning Disabilities

Unit 2: Causes, Identification and Types of Learning Disabilities

Unit 3: Educational Provisions for Learning Disabilities

Unit 4: Approaches and Techniques of Teaching Learning Disabilities

UNIT- 1 LEARNING DISABILITIES

Unit Structure:

- 1.0 Introduction
- 1.1 Objectives
- 1.2 Concept of Learning Disability
- 1.3 Meaning of Learning Disability
- 1.4 Definitions of Learning Disability
- 1.5 Characteristics of Learning Disabled students
- 1.6 Summing Up
- 1.7 Questions and Exercises
- 1.8 References and Suggested Readings
- 1.9 Answers to Check Your Progress

1.0 Introduction:

The new born infant is an active organism who is genetically endowed at birth with biological intelligence, capable of adaptively interacting with the environment. The maturation of structural and functional changes within the body systems together with the effects of cumulative experience facilitates developmental progress. In the process of development, learning also takes place. Learning in formal situation takes place in the teaching-learning process where the child is given utmost importance.

Learning is knowledge got by study, by experience, or by teaching. When children fail to learn, they impair the capacity to profit from new experiences. They are not able to learn because something prevents them from doing something, may be internal or external cause. This is termed as LEARNING DISABILITY (LD).

It is very difficult to recognize the child with learning disability when it is too young. Once the child starts going to school, is participating in the

teaching-learning process and other co-curricular activities, these learning disabilities show up and are recognized.

The phrase “Learning Disability” was coined in 1963 by **SAMUEL KIRK** while he was addressing a group of parents at the conference on exploration into the problems of the perceptually handicapped children. He used the phrase learning disability to refer to children who were hyperactive and who had reading difficulty or disorders of language. This was an attempt to diagnose children simply and behaviorally. It was also beginning of the learning disability movement which was to bring about considerable social, educational, economic and legislative changes.

1.1 Objectives:

After going through this unit you will be able to—

- *understand* the concept of learning disability,
- *know* the meaning of learning disability,
- *define* the term learning disability,
- *analyze* various characteristics of learning disabled students.

1.2 Concept of Learning Disability:

The concept of Learning Disability is a complex phenomenon. It is not only complex but mysterious to. No area of special education has experienced much rapid growth, extreme interest and frantic activity as learning disability. This statement is as true as it was a decade ago. The number of children identified as learning disabled has increased greatly in recent years making this category the largest in special education.

Learning disability, more than any area of special education seems to create misunderstanding and controversy. There is considerable confusion and disagreement not just on the part of general public but among professionals and parents as well, on such basic questions as what is learning disability. There is no satisfactory answer till today.

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The history of learning disability can be traced back to the work of Straus and Lehtinen who wrote a book titled “Psychopathology of the Brain Injured Child”, in 1947. The official beginning of the learning disability movement was started in 1963 when Dr. Samuel Kirk delivered an address to a group of parents to form the association for children with learning disability. The field of learning disability developed in United States during 1960’s and 1970’s.

The field currently called ‘Learning Disability’ includes notions of brain damage, hyper activity, mild form of retardation, socio-emotional maladjustment, language difficulty, subtle form of deafness, reading disorder and almost the entire field of special education. This has lead to a number of problems in choosing a suitable term. There is large number of terms used to describe the same kind of disorder. Different persons, for the same kind of problem, use different terms at different places. It has made the area more complex and confusing. Use of different terms does not indicate any clear-cut direction regarding its meaning, definition, identification, procedure, educational provisions and the like. Edward Fry has given as terminology generator table, which generates more than one thousand terms, which are more or less in use to describe a kind of learning disorder similar to the phrase learning disability. It indicates the degree of complexity involved in the field of learning disability.

STOP TO CONSIDER

The phrase “Learning Disability” was coined in 1963 by SAMUEL KIRK while he was addressing a group of parents at the conference on exploration into the problems of the perceptually handicapped children. He used the phrase learning disability to refer to children who were hyperactive and who had reading difficulty or disorders of language. This was an attempt to diagnose children simply and behaviorally.

1.3 Meaning of Learning Disability:

Historically the concept of a learning disability was narrowly defined but in recent years physicians psychologists and educators have been increasingly likely to describe any academic difficulty as a learning disability. When the teacher observes that a pupil is consistently unable to keep up with classroom assignments she refers to difficulty such as “Unable to progress in mathematic even though his work in all order areas is average” or “does average work in reading and other subjects but consistently fails in spelling,” where he cannot differentiate such words as lake and like. The problem often centers on a marked lack of attainment in a particular area in the face of average achievement in other areas to indications of at least average intellectual ability. This lack of attainment in a particular area is termed as **learning disability**.

1.4 Definitions of Learning Disability:

Samuel Kirk first defined a learning disability as a disorder or a retardation of development affecting specific academic area, such as reading, spelling, arithmetic and writing as well as delays in language in general.

Bateman (1964) later offered a definition that advanced a quantitative basis for defining the concept of learning disabilities. A child was considered learning disabled when he or she exhibited “An educationally significant discrepancy between their estimated intellectual potential and the actual level of performance related to basic disorders in the learning process”. Bateman’s definition added a method of discriminating learning disabled from normal children.

Clements (1966): The level of the intellectual potential that must be present in order that the underachievement be labeled as a disability – near average, average, or above average general intelligence with certain learning or behavioural disabilities ranging from mild to severe.

Many school systems have adopted the Bateman and Clements criteria for selecting children for Special Education classes in learning disability. The IQ scores of the learning disabled children are two years or 2 grade levels below the expected level based on IQ.

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Since the 1980s the broad definition of Learning disability formulated by the US National Joint Committee on LD (NJCLD, 1981/1988) with representation from all concerned disciplines has been widely used. It reads as follows:

Learning disability 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, presumed to be due to central nervous system dysfunction and may occur across the life span. Problems in self-regulatory behaviors, social perception and social interaction may exist with learning disabilities but do not by themselves constitute a learning disability. Although learning disabilities 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 these conditions or influences (Wrong, 1996).

This broad definition reflects a gradual shift from the traditional categorical approach which broadly characterized children with learning disability into those with 'specific reading retardation' and those with 'general reading backwardness' to a newer (1990s) dimensional approach of individual differences in reading achievement. This latter approach has been increasingly adopted by most researchers but has yet to be adopted by practitioners.

The Federal Government of the USA has defined learning disability in Public Law 94-142 (Education for All Handicapped Children Act) as follows:

Specific learning disability means a disorder in one or more of basic psychological processes involved in understanding or in using language, spoken or written, which may manifest itself as an imperfect ability to listen, think, speak, read, write, spell or to do mathematical calculations. The term includes such conditions as perceptual handicap, brain injury, minimal brain dysfunction, dyslexia and developmental aphasia. The phrase does not include children who have learning problems which are primarily the result

of visual, hearing or motor handicaps, of mental retardation, of emotional disturbances or of environmental, cultural or economic disadvantages (Education for All Handicapped Children Act, 1975).

Nevertheless, there is no universally accepted definition of learning disability, because the criteria for diagnosis of individual's disorders varied from time to time.

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CHECK YOUR PROGRESS

Que. 1: What do you understand by the term “ Learning Disability”?

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Que. 2: Write any two definitions of Learning Disability?

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1.5 Characteristics of Learning Disabled Students:

The following is a list of common characteristics of a Learning Disabled student. Conditions must be persistent over a long period of time. Presence of these conditions does not necessarily mean a person is learning disabled.

Reading Skills:

- Poor decoding skills
- Poor reading fluency

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- Slow reading rate
- Lack of self-monitoring reading skills
- Poor comprehension and/or retention
- Difficulty identifying important ideas in context
- Extreme difficulty building ideas and images
- Difficulty integrating new ideas to existing knowledge
- Weak vocabulary skills
- Extreme difficulty understanding words or grammar
- Difficulty recognizing high frequency words
- Oral comprehension is noticeably stronger than reading comprehension
- Extreme difficulty focusing attention on the printed marks
- Difficulty controlling eye movements across the page
- Wavy or shimmering pages not attributable to poor vision

Spelling Skills:

- Phonological awareness is noticeably stronger than spelling ability
- Frequent spelling errors of high frequency words
- Extreme difficulty with homonyms and/or regular spelling patterns
- No understanding of the relationship of phonics to written language
- No understanding of common spelling rules
- Inadequate understanding of phonics even with instruction

Written Expression Skills:

- Poor writing fluency
- Unable to compose complete, grammatical sentences
- Difficulty organizing written information
- Poor handwriting
- Extremely poor alignment

- Inability to take notes or copy information from a book or the board
- Oral expression is noticeably stronger than written expression
- Extremely weak proof reading skills

Oral Language Skills:

- Inability to hear small differences between sounds, not attributable to a hearing loss, particularly vowel sounds
- Difficulty articulating thoughts or ideas orally
- Difficulty pronouncing words
- Inability to blend sounds together to form words
- Difficulty listening and responding to a series of directions
- Disorganized recall of facts or details

Mathematical Skills:

- Poor mathematical fluency
- Difficulty memorizing multiplication tables
- Difficulty identifying multiples and/or factors
- Poor basic calculation skills
- Difficulty understanding word or application problems
- Poor understanding of mathematical concepts
- Difficulty sorting out irrelevant information
- Lower visual perceptual and visual-spatial ability
- Inability to transfer basic mathematical concepts to solve problems with unpredictable information
- Inability to use basic facts within more complex calculations

Memory Skills:

- Extremely weak ability to store and retrieve information efficiently
- Extremely weak ability to hold information for immediate use

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Reasoning Skills:

- Extremely weak ability to solve problems, particularly when information or procedure is unfamiliar
- Extreme difficulty recognizing, transforming, or using specific information to reach general conclusions

CHECK YOUR PROGRESS

Que. 3: What are the various skills where we see Learning Disability?

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1.6 Summing Up:

“Learning Disability” was coined in 1963 by SAMUEL KIRK while he was addressing a group of parents at the conference on exploration into the problems of the perceptually handicapped children. He used the phrase learning disability to refer to children who were hyperactive and who had reading difficulty or disorders of language. This was an attempt to diagnose children simply and behaviorally.

Learning disability includes notions of brain damage, hyper activity, mild form of retardation, socio-emotional maladjustment, language difficulty, subtle form of deafness, reading disorder and almost the entire field of special education. This has lead to a number of problems in choosing a suitable term. There is large number of terms used to describe the same kind of disorder. Different persons, for the same kind of problem, use different terms at different places. It has made the area more complex and confusing. Use of different terms does not indicate any clear-cut direction regarding its meaning, definition, identification, procedure, educational provisions and

the like. However, in the next unit we shall discuss the causes of learning disability, how to identify learning disabled students and what the different types of learning disabilities are.

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1.7 Questions and Exercises:

1. What do you mean by the term learning disability? How the Federal Government of the USA has defined learning disability in Public Law 94-142?
2. What are the characteristics of learning disabled students? State with suitable examples.

1.8 References and Suggested Readings:

- Lerner, J. (2002) *Learning Disabilities*, (8th ed) Boston: Houghton Mifflin.
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- Panda, K.C. (2006) *Education of Exceptional Children*, Vikas Publishing House Pvt Ltd, New Delhi, 110014
- Rao, A.A. (2010) *Learning Disabilities*, Nilkamal Publications Pvt Ltd, Hyderabad-500 095.
- Umadevi, M.R. (2010) *Special Education*, Nilkamal Publications Pvt Ltd, Hyderabad-500 095.

1.9 Answers to Check Your Progress:

1. Any academic difficulty is to be considered as learning disability. For example: when the teacher observes that a pupil is consistently unable to keep up with classroom assignments she refers to difficulty such as “Unable to progress in mathematics even though his work in all other areas is average” or “does average work in reading and other subjects but consistently fails in spelling,” where he cannot differentiate such words as lake and like. The problem often centers

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on a marked lack of attainment in a particular area in the face of average achievement in other areas to indications of at least average intellectual ability. This lack of attainment in a particular area is termed as **learning disability**.

2. (i) Samuel Kirk first defined a learning disability as a disorder or a retardation of development affecting specific academic area, such as reading, spelling, arithmetic and writing as well as delays in language in general.

(ii) According to Bateman learning disability can be defined in the following ways. A child was considered learning disabled when he or she exhibited “An educationally significant discrepancy between their estimated intellectual potential and the actual level of performance related to basic disorders in the learning process”.

3. The various skills where we can see learning disability are as follows:

- Reading Skills
- spelling Skills
- written expression skills
- oral language skills,
- mathematical skills
- memory skill and reasoning skill.

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UNIT- 2
CAUSES, IDENTIFICATION AND TYPES OF
LEARNING DISABILITIES

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Unit Structure:

- 2.0 Introduction
- 2.1 Objectives
- 2.2 Causes of Learning Disability
- 2.3 Identification of Learning Disability
- 2.4 Types of Learning Disability
- 2.5 Summing Up
- 2.6 Questions and Exercises
- 2.7 References and Suggested Readings
- 2.8 Answers to Check Your Progress

2.0 Introduction:

Learning which brings changes in the modification of human behavior through experience, or by teaching. When children fail to learn, they impair the capacity to profit from new experiences. They are not able to learn because something prevents them from doing something, may be internal or external cause. This is termed as LEARNING DISABILITY (LD). However, in the previous unit we have understood the concept, meaning and various characteristics of learning disabilities. This unit is also very interesting for us. Because you are now quite curious to know why learning disabilities seen among children, what are different causes, how can we identify them and what type of learning disabilities there are? So keeping in mind all this questions, we shall go through this unit and find out all solutions too.

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2.1 Objectives:

After going through this unit you will be able to—

- *understand* the causes of learning disabilities,
- *identify* learning disabled students,
- *analyse* various types of learning disabilities.

2.2 Causes of Learning Disability:

Literature cites many different causes related to a learning disability—organic, biological, genetic and environmental – but their roles remain ambiguous and tentative. LD is a broad term that covers a pool of possible causes, symptoms, treatments and outcome. Because of this it is difficult to diagnose or to pinpoint the causes.

- **Neurological Damage:**

Children with learning disability share several characteristics found in persons with brain damage caused by injury or infection.

‘*Strauss and Werner*’ studied brain-injured person (for e.g. soldiers having head injuries) and found similarities between them and children with learning disabilities. Some of these behaviors were impulsivity, distractibility, figure-ground disturbances, visual-motor disorders and thinking and conceptual disorders.

Neurological damage can also occur during the prenatal, natal and post-natal periods, resulting in learning disability. Factors such as prolonged labour, premature birth, birth complication, maternal age, use of drugs and alcohol, maternal-foetal blood incompatibility, maternal endocrine disorder, Rh – factor, cigarette smoking and low birth weight are some of the other variables studied.

- **Maturational Delay:**

Another theory to explain learning disability suggests that it occurs because they’re a maturational delay rather than a permanent dysfunction within the neurological system. Bender (1973) observed that if differential

stages in the development of the brain are delayed, there occurs a maturational lag. Some typical symptoms he mentioned were:

- Slow maturation of language skills, specially reading
- Delayed development of motor skills
- Uneven performance Patterns on measures of intellectual development.
- Visual motor problems.
- Incomplete or mixed dominance.
- Right-left confusion.
- Immaturity (more often seen in males)
- Tendency of numbers within a family to show similar symptoms.

A fair amount of research supports Bender's views that maturational delay is associated with learning disability.

De Hirsch and Langford (1996) described language difficulty of reading; writing and spelling as developmental disturbances reflecting an immature nervous system.

- **Genetic Factors:**

The exact nature of the relationship between genetic and learning disability remains obscure but evidence does suggest that members within a family have a tendency towards learning disability.

Hallgrew (1950) found that 88 percent of the families of dyslexic children showed similar learning problems. *Herman (1959)* examined dyslexia in twins and reported that of the twelve sets of identical (monozygotic) twins, all members were dyslexics. But when the study was conducted with thirty-three pairs of fraternal (dizygotic) twins, only one third showed both members as being dyslexic and two thirds had only one dyslexic member. Therefore more research is needed in this area to prove a differential relationship between learning disability and genetic patterns.

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- **Biochemical Factors:**

Chemicals play an important role in brain activity, controlling and releasing electrical nerve impulses between neurons. Absence or even excessive amounts of biochemical

For example, a delicate balance of acetylcholine and cholinesterase is needed for neural transmission. Metabolic disorders of biogenic amines such as serotonin and dopamine have been of particular interest to researchers. There appears to be some relationship between these chemicals and hyperactivity (frequently associated with learning disability).

Remediation generally takes the form of drugs such as ritalin, Dexedrine, and Cylert to be taken under the advice of a physician. Some side effects (loss of appetite, irritability, lack of sleep and headaches) are known to occur and careful monitoring of the dosage is very important.

- **Nutritional Deficiencies:**

The developing child requires adequate nutrition, especially in the first six months. A poor diet and severe malnutrition can reduce the child's ability to learn by damaging inter-sensory ability and delaying development.

Cott (1972) linked nutritional deprivation to poor biochemical functioning in the brain and suggested a form of treatment called megavitamin or orthomolecular therapy.

- **Megavitamin or Orthomolecular Therapy:**

It is the treatment, which entails daily doses of vitamins and other trace minerals, remains controversial but the principle of maintaining a well-balanced diet is sound and pertinent.

Though teachers cannot be responsible for their student's diets, they can request parents to improve their child's nutritional needs. Pregnant mothers too must understand the role of nutrition in determining the development of the fetus.

- **Environmental Factor:**

There are several facts in the child's environment which may result in a learning disability. In economically deprived homes, the child may not be exposed to adequate sensory, linguistic activities.

For example, if a child is never given the opportunity to go to school, this would obviously result in the absence of basic academic skill an emotionally instable home life may deprive the child of any motivation to learn.

Some researches (Bruner, 1971) believe that poor quality of teaching in schools can also cause a learning disability. Very often teachers themselves are not equipped to teach a particular subject. A poor teaching style not giving the learner enough time to acquire basic skills, moving too fast and failure to understand how best a child learns can result in learning difficulties of the kind.

So far as we got to know various causes of learning disabilities. Now we shall see how to identify learning disable students. What are the basic symptoms do they poses? Let's see.

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STOP TO CONSIDER

There are various types of causes of learning disabilities which seem among students. The causes of learning disabilities are neurological damage, maturational delay, genetic factors, biochemical factors, nutritional deficiencies and environmental factor.

2.3 Identification of Learning Disability:

Individuals are assessed usually are learning disabled after they start having problems in school. A variety of tests are administered even after certain tell-tale signs. The three indicators of LD have to be identified:

- Discrepancy between ability and achievement.
- Low achievement.
- Scattered assessment profile indicating variable performance in different areas.

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There are certain behavioural indices of learning disabilities in children:—

- Near average, average or above average in intellectual ability.
- Impulsive behaviour in talk and action.
- Inability to focus on one activity.
- Easily distractible.
- Inability to shift from one activity to another.
- Easy onset of fatigue.
- Wrong or inappropriate perception.
- Reversal in writing and reading and transposition.
- Problems of left and right, up and down orientation.
- Difficulty in understanding and remembering oral message.
- Difficulty in interpretation and remembering visual image.
- Language and organization difficulties.
- Trial and error approach to work.
- Thinking problem relation to abstract ideas and concept.
- Poor fine motor coordination.
- Clumsiness in thinking.
- Hyperactivity (easily stimulated).
- Hypo activity (late action with much stimulation).
- Omits, add, subtracts, reverses letters in words.
- Skips line while reading.
- Does not build letters B-A-T not BAT.
- Unable to follow verbal direction.
- Reverses numbers 6, 9; 36, 63; 14, 41.
- Gets confused with arithmetic signs $>$, $<$, $-$, $+$...
- Does not know carry over.
- Get easily disturbed.
- Appears to be muddled.
- Appears to be forgetful.

Easily identification of such difficulties is important even from pre-school period so that remedial education can be provided. In fact, the sooner the high risk children are recognized the greater is the chance of prevention failure.

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CHECK YOUR PROGRESS

Que. 1: Write any two causes of learning disability?

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Que. 2: Write any five behavioural indices we see among learning disable students?

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As per the above discussion we have seen there are various causes of learning disabilities. Also we came to know how learning disable students can be identified. Now we shall study various types of learning disability.

2.4 Types of Learning Disability:

The Learning –disabled children constitute a heterogeneous group. Some LD children have reading problems and some others have writing problems. Some LD children have problems of comprehension whereas other have may have problems in telling the time, locating a place on the map. Thus, it is difficult to mention the characteristics, which are noticed in

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all LD children. The most frequently mentioned characteristics of LD children include the following:

- **Ability Level:**

The ability level of LD children varies from near average to average to above average.

- **Disorders of Attention and Hyperactivity:**

Attention is the ability to concentrate on a task long enough to grasp its essential features. Short attention span and lack of concentration have been found to be the most obvious qualities in learning disabled individuals, but this does not mean that all inattentive children are learning disabled. A child may have attention disorder for many reasons. He may have an

- (i) Undetected hearing loss or poor eyesight so that at he tunes out when the teacher is teaching.
- (ii) Depression
- (iii) Anxiety
- (iv) Emotional problems or stress can lead to problems of concentration

Studies confirm that learning-disabled persons are considerably inferior in selective attention (cannot select the relevant details) and they cannot sustain attention, or maintain attention till the task completed.

- **Hyperactivity:**

The other term one find frequently associated with Learning disability is Hyperactivity.

Psychiatrists refer to hyperactivity as ‘Attention Deficit Hyperactive Disorder’ (ADHD). Hyperactivity is a much-misunderstood term and is widely misused. Generally speaking, when a teacher says “he is inattentive” or “she is hyperactive” the term is being loosely applied to almost any off task behavior.

When teachers have been asked to explain what they understand by the term hyperactive they vaguely indicate, “He cannot sit in one place”;

“He is always talking when I am writing on the blackboard”; “He is impulsive and answers without thinking”.

There is a difference between being impulsive and hyperactive. They do not mean the same thing. Not all who respond impulsively are hyperactive and impulsivity does not always result in an incorrect response.

Blackman and Goldstein (1982) suggested that when the learner does not know how to respond to incoming stimuli, he produces an incorrect response by either ignoring the relevant features of the task (impulsivity) or responds with excessive activity (hyperactivity).

The impulsive learner chooses the very first action he thinks will solve the problem, without taking time to analyze all the attributes of the task. This leads him to go on to the next action, thus producing hyperactive behavior. It is also possible to respond quickly and accurately.

- **Hyperactivity or Hyperkinesias:**

This has been considered as synonymous with learning disability for a very long time, although the relationship between the two is still not clearly substantiated.

Ross states many children are hyperactive without being learning disabled; some learning-disabled children are also hyperactive. The relationship between the two conditions is not at all clear.

For a child to be diagnosed as hyperactive, he or she must exhibit at least some of the specified behaviors more often than children of the same age. The symptoms must be present for at least six months and start before seven years of age, even though ADHD is often not diagnosed until a child is eight or older.

Some specified behaviors of a hyperactive child—

1. Constant motor activity
2. Restless
3. Tapping of finger or foot
4. Jumping out of seat
5. Skipping from task to task

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6. Easily distracted by extraneous stimuli
7. Has difficulty playing quietly
8. Often talks excessively
9. Often interrupts or intrudes on others
10. Often does not seem to listen to what is being said

- **Motor Problems:**

The LD children are generally clumsy or awkward with poor and gross motor coordination. They demonstrate poor tactile discrimination, excessive need to touch; poor writing and drawing performance.

- **Visual Perceptual Problems:**

The brain incorrectly translates incoming light waves Educators generally describe visual perception as the process by which visual stimuli is made meaningful to the observer.

The LD children are unable to distinguish between visual stimuli (visual discrimination): they are unable to perceive a figure against a background (visual figure ground). They are unable to fill in missing parts when only part of a word or object is seen (visual closure); they are also unable to remember and re-visualize images or sequences very well (visual memory).

Perceptual problems are of several different kinds Visual perception involves a set of sub-skills, briefly mentioned as follows.

- a) **Figure-Ground Discrimination:** This is the ability to concentrate on what is relevant and ignore what is irrelevant; for example, in a painting in the child will be able to attend to salient features and not get confused. But a child who is inattentive an easily distracted will find it difficult to focus on relevant objects in the picture.
- b) **Spatial Relationship:** Orientation in space means being able to see things from another's perspective and take a visual viewpoint that is different from one's own. Concepts of left /right, under/above are needed to perform most tasks.

For e.g. copying a pattern, or words in a sentence, or solving addition and subtraction sums, all involve attention to directionality.

- c) **Visual- Motor Integration:** It was *Newell Kephart* (1977) who introduced programmers based on the relationship between perception and physical movement. According to Kephart, perceptual and motor learning go side by side; for e.g. when a child traces a line, he alters the movement and direction of his hand in response to feedback from visual information. He believed that basic skills-eye hands coordination, temporal-spatial integration and form perception must be taught in their natural order of development.

Children who are weak in this area will demonstrate difficulty in buttoning, lacing, cutting, pasting, writing and also copying from the blackboard. The shape, size and position of objects will confuse them.

According to Kephart, children must be taught motor patterns and not splinter (isolated) skills and his training programme emphasizes exercise to bring about this perceptual motor match.

Auditory Perceptual Problems:

The LD children are unable to distinguish between sounds (auditory discrimination); they are unable to attend to important auditory stimuli by pushing all other auditory stimuli into the background (auditory figure ground). They are unable to fill in missing sounds when only a part of the word is heard (auditory closure). They are also unable to remember auditory stimuli or sequences very well (auditory memory). The brain incorrectly translates incoming sound waves.

The following sub-skills are a good sampling of what is generally included as components of auditory perception.

- a) **Auditory Discrimination:** Auditory Discrimination is the ability to hear similarities and differences between two or more sounds. Most tests include a section for Auditory Discrimination and usually involve

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asking the child if he can indicate which words sound the same and different.

- b) **Auditory blending:** Auditory blending is a skill specially require for reading. It is the ability to blend or combine sounds to form words. Most dyslexic readers tend to read in a disjointed manner and have difficulty with blends (bl, sp) and digraphs (ch, gh, th).
- c) **Auditory memory:** This is the ability to recall sounds and make sense of what is heard. Most learning-disabled persons have difficulty in recalling the correct sequence of letters in a word or words in a sentence.

- **Heptic Perception:**

Heptic perception is the process by which information is acquired though the tactile (sense of touch) and kinesthetic (movement) system. A child explores the world around him by touching and manipulating objects and absorbing information pertaining to texture, pain, temperature, pressure and geometric feature. However some learning-disabled children may be unable to derive meaning from touching.

For example, the quality of roundness in a circle and concept related to hard/soft, rough/ smooth or hot/ warm may not be acquired easily; they may also have problems with kinesthesia, which includes bodily movement, coordination, body image, direction and spatial orientation. A child may be unable to write because he does not know how to move his hand and he cannot produce the up/down strokes required for writing.

- **Memory Disorders:**

Persons with learning disability are generally characterized by inefficient memory system. This means that they are unable to spontaneously use rehearsal strategies, recode information in a meaningful way or reorganize information. Early research suggested this occurred because they could not retrieve stored information efficiently. More recent theories focus on the inability to impose structure on information, which is a key factor in memory. It is still not clear whether; memory disorders are due to inefficient rehearsal

strategies, poor cognitive development or biochemical differences. While it is difficult to pinpoint exactly where the breakdown is taking place, the following characteristics are clearly observed in most learning disabled persons

- LD students find it difficult to recall visual material, specially the written word.
- LD students are unable to spontaneously use strategies for verbal rehearsal.
- LD students are poor at task requiring auditory discrimination.

- **Disorder of Spoken Language:**

The LD children demonstrate delayed or slow development of speech articulation and an inability to organize words to form phrases, clauses or sentences

- Reliance on simple sentence constructions.
- Incorrect use of a word given in its context.
- Problems with tense, pronouns, possessives and negatives.
- Omission of words and word ending.
- Insertion of extra words or word parts in their sentences.
- Fragmentation of spoken language
- Awkward organization of spoken language.
- Articulation difficulties.
- Difficulty in retrieving words during conversation, often with attempted cover up through stalling or insertions.

The speech of learning-disabled students appears to be very limited in structure and usually contains “fillers” such as “uh...uh... I mean.”

- **Social Emotional Behavior Problems:**

The LD children are impulsive in nature. They fail to think about consequences of their behavior. At times they exhibit explosive behavior.

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They display range reactions or throw tantrums when crossed. They lack social competence. Their social competence is often below the average for their age and ability. They are unable to adjust to changes. They exhibit rapid mood variation even from hour to hour.

- **Orientation Problems:**

The LD children possess poorly developed concept of space and a distorted body image. They have difficulty in judging distance and size and in discriminating figure from ground, parts from the whole and left from right. They are disoriented in the time and experience trouble relating to concepts like before and after now and then and today and tomorrow.

- **Work Habits:**

The LD children organize work poorly. They work slowly and frequently, confuse directions or rush through work carelessly.

CHECK YOUR PROGRESS

Que. 3: Write any four types of specific behaviors of a hyperactive child?

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Que. 4: State the characteristic of LD children having socio-emotional behavioural problem.

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- **Academic Disabilities:**

There is little doubt that in the area of academic learning children with a learning disability are low achievers. They have problem in the specific areas of reading, writing and mathematics although it is not necessary that a

child poor in spellings will also be poor in mathematics. Difficulties related to schoolwork may appear as early as kindergarten and continue into adolescence and adulthood.

Academic disorders are usually the first to be noticed by parents and educators because it affects the child's achievement in school. The LD children have problems in reading, arithmetic, writing, spelling, telling time and even locating places on map.

- a) **Disorders of Reading (Dyslexia):** Learning disability has come to be synonymous with reading disorder to the extent that many people use the term dyslexia to represent all kinds of learning disability. The inability to read is probably the first indication that there is something wrong with the child. A dyslexic child will read slowly often reversing letters, words or numbers; the child may try to guess while reading, omitting or adding words not in the text. He may have a poor vocabulary and weak comprehension. Research has documented that the dyslexic reader fails to perceive and analyze distinctive features automatically, overlooks the sequential features of a story, which affects comprehension and focuses less on meaning.
- b) **Disorders of Writing (Dysgraphia):** Since what we are dealing with is a language disorder, the area of written expression is also affected. Some typical characteristics are:
- ❖ The total numbers of words and length of sentences is reduced.
 - ❖ There are errors in spelling, syntax, tense and punctuation.
 - ❖ The child is unable to deal with abstract themes and ideas.
- c) **Disorder of Mathematical Learning (Dyscalculia):** Much less research has been done in the area of mathematical disorders and most of the research focuses on the younger elementary level students. However, most learning-disabled students have problems in this area. In the primary classes, they may be unable to associate numbers with quantity or discriminate between right and left. There is a tendency to reverse numbers and confuse before and after.

Space for Learner

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Spatial orientation and ability to make estimations of space, size, time, shape and weight tends to be poor. LD students tend to work on a concrete level and are slow to acquire abstract reasoning skills which are very necessary for problem solving in the higher classes.

d) Disorder of Listening: Listening is a complex process, which involves attention to sound-discriminations between sounds to gather relevant features of what is being said, participation in the communication process and storage of what was heard for future retrieval. Obviously listening requires good attention, discrimination and memory system. Some LD students may find it difficult to make sense of what is being said to them. They find it difficult to follow direction or sequence of events in stories and conversation. A learning disability in the auditory area show itself in the following ways.

- ❖ The person cannot recognize words having multiple meaning or words used in different contexts.
- ❖ He cannot understand figurative language, idioms, words with multiple meaning etc.
- ❖ He has difficulty understanding sarcasm, humour and play on words.

However, in the end of the discussion let us have a look on the common types of learning disabilities seen among children.

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, picture

The above table reflects the common types of learning disabilities, its difficulties and the problems faced by children having such disability.

Space for Learner

2.5 Summing Up:

As we have studied there are various types of causes of learning disabilities which seem among students. The causes of learning disabilities are neurological damage, maturational delay, genetic factors, biochemical factors, nutritional deficiencies and environmental factor.

Individuals are assessed usually are learning disabled after they start having problems in school. A variety of tests are administered even after certain tell-tale signs. The three indicators of LD have to be identified:

- Discrepancy between ability and achievement.
- Low achievement.
- Scattered assessment profile indicating variable performance in different areas.

The Learning –disabled children constitute a heterogeneous group. Some LD children have reading problems and some others have writing problems. Some LD children have problems of comprehension whereas other have may have problems in telling the time, locating a place on the map. Thus, it is difficult to mention the characteristics, which are noticed in all LD children. However, the most frequently mentioned characteristics of LD children are as follows:

Ability level of the children, Disorders of attention and Hyperactivity, Hyperactivity or Hyperkinesias, Motor Problems, Auditory Perceptual Problems, Heptic Perception, Memory Disorders, Disorder of Spoken Language, Social Emotional Behavior Problems, Orientation Problems, Work Habits and Academic Disabilities.

Academic disorders are usually the first to be noticed by parents and educators because it affects the child's achievement in school. The LD children have problems in reading, arithmetic, writing, spelling, telling time and even locating places on map.

2.6 Questions and Exercises:

1. What are the various causes of learning disability? Can these be prevented?
2. What are the various identification procedure for LD children?
3. Discuss different types of learning disability.

2.7 References and Suggested Readings:

- Lerner, J.(2002) *Learning Disabilities*,(8th ed)Boston: Houghton Mifflin.
- Mangal, S.K.(1981) “ *Abnormal Psychology*” Sterling Publishers, New Delhi.
- Panda.K.C. (2006) *Education of Exceptional Children*, Vikas Publishing House Pvt Ltd, New Delhi, 110014
- Rao.A.A. (2010) *Learning Disabilities*, Nilkamal Publications Pvt Ltd, Hyderabad-500 095.
- Umadevi, M.R. (2010) *Special Education*, Nilkamal Publications Pvt Ltd, Hyderabad-500 095.

2.8 Answers to Check Your Progress:

- Ans No.1: Neurological Damage and Maturational Delay.
- Ans No. 2: Easily distractible, Language and organization difficulties, Hyperactivity, Skips line while reading and gets confused with arithmetic signs $>$, $<$, $-$, $+$...
- Ans No.3: Constant motor activity, jumping out of seat, often talks excessively and often does not seem to listen to what is being said.
- Ans No.4: The LD children are impulsive in nature. They fail to think about consequences of their behavior. At times they exhibit explosive behavior. They display range reactions or throw tantrums when crossed. They lack social competence. Their social competence is often below the average for their age and ability. They are unable to adjust to changes. They exhibit rapid mood variation even from hour to hour.

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UNIT- 3
EDUCATIONAL PROVISIONS FOR
LEARNING DISABILITIES

Space for Learner

Unit Structure:

- 3.0 Introduction
- 3.1 Objectives
- 3.2 Educational provisions for Learning Disabilities
- 3.3 Summing Up
- 3.4 Questions and Exercises
- 3.5 References and Suggested Readings

3.0 Introduction:

As we know that learning disability includes notions of brain damage, hyper activity, mild form of retardation, socio-emotional maladjustment, language difficulty, subtle form of deafness, reading disorder and almost the entire field of special education. This has led to a number of problems in choosing a suitable term. There is a large number of terms used to describe the same kind of disorder. Different persons, for the same kind of problem, use different terms at different places. It has made the area more complex and confusing. Use of different terms does not indicate any clear-cut direction regarding its meaning, definition, identification, procedure, educational provisions and the like. However, in the previous units we have already studied the concept, characteristics, causes, identification and various types of learning disabilities. The present unit will give focus on various educational provisions for learning disabilities.

The educational provisions for children with a learning disability will help such children to improve and sometimes overcome their learning disability to a certain extent. First of all the child should be identified on

Space for Learner

whether he or she has a specific learning disability and the type of learning disability the child has, needs to be defined. The identification procedure and various types of learning disabilities we have studied. Now let us know the educational provisions for learning disabled children.

3.1 Objectives:

After going through this unit you will be able to –

- *understand and apply* various educational provisions for learning disabilities.

3.2 Educational provisions for Learning Disabilities:

In general educational provisions for Children with Learning Disabled include the following:

- 1. Provisions of Day school/ Specialized School:** Learning Disabled children cannot be taught along with other students as they suffer from severe learning deficiencies. Hence, there should be the provision of day school or special schools or at least separate classes for them where they can be taught by through special methods on the same curriculum with greater care and attention.
- 2. Provisions of Special class in a Regular School:** where LD children are given special instruction in a self contained classroom by special teacher as well as regular classroom teacher do assist in teaching subject matters. These children receive instruction on academic in these classes but for social activities etc. they are with general students.
- 3. Provision of Special Remedial and Educational Program:** Here, first the learning difficulty is identified i.e. the type and amount of it. Accordingly, a special remedial and educational program may be then adapted to rectify it. For example- if the deficiency of the child is related to the neural disorder. We can follow remedial programs. Getman's Visuo-Motor program etc. or if their deficiency is related to psycho-linguistic ability, we can follow a program like Witmer's Psycho-Educational etc.

4. Improving the Existing Environmental Set-Up: Many of the learning disabled children are caused by the improper negative factors present in their physical, social and educational environment. The measures expected from the parents, members of the family, teachers, school authorities and society to improve the existing environmental set-up can be summarized as follows:—

- Great care should be taken by the parents and teachers to pick-up proper methods of learning and Communication.
- Efforts should be made to provide proper facilities in the school according to the needs, interest and abilities of these children. Stress should be made both on theory as well as on the practical field.
- In case of severe learning disability, the child should be placed in a fulltime special learning setting under the guidance of specially trained teachers.
- The teachers should not lose patience as these children are essentially slow-learners and under-achievers. They should be accepted with all their weaknesses and deficiencies.
- With the help of men and material resources available, the learning disabled should be helped in overcoming their deficits in skills like memory, spelling, handwriting, verbal expressions and mathematical abilities etc.

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STOP TO CONSIDER

Educational provisions for Learning disable students—

- Day school/ Specialized School.
- Special class in a Regular School.
- Special Remedial and Educational Program.
- Improving the Existing Environmental Set-Up.

3.3 Summing Up:

Day school/ Specialized School, Special class in a Regular School, Special Remedial and Educational Program and Improving the Existing Environmental Set-Up are some of the educational provisions for learning disability. However, the existing environmental set-up is to be summarized as follows—

- Great care should be taken by the parents and teachers to pick-up proper methods of learning and Communication.
- Efforts should be made to provide proper facilities in the school according to the needs, interest and abilities of these children. Stress should be made both on theory as well as on the practical field.
- In case of severe learning disability, the child should be placed in a fulltime special learning setting under the guidance of specially trained teachers.
- The teachers should not lose patience as these children are essentially slow-learners and under-achievers. They should be accepted with all their weaknesses and deficiencies.
- With the help of men and material resources available, the learning disabled should be helped in overcoming their deficits in skills like memory, spelling, handwriting, verbal expressions and mathematical abilities etc.

3.4 Questions and Exercises:

1. Discuss different educational provisions for Learning Disable students?
2. How can you improve the existing environmental set-up for learning disable students?

3.5 References and Suggested Readings:

- Lerner, J.(2002) *Learning Disabilities*,(8th ed)Boston: Houghton Mifflin.
- Mangal, S.K.(1981) “ *Abnormal Psychology*” Sterling Publishers, New Delhi.
- Panda.K.C. (2006) *Education of Exceptional Children*, Vikas Publishing House Pvt Ltd, New Delhi, 110014
- Rao.A.A. (2010) *Learning Disabilities*, Nilkamal Publications Pvt Ltd, Hyderabad-500 095.
- Umadevi, M.R. (2010) *Special Education*, Nilkamal Publications Pvt Ltd, Hyderabad-500 095.
- <https://educercentre.com/the-educational-provisions-for-children-with-learning-disability/>

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UNIT- 4

APPROACHES AND TECHNIQUES OF TEACHING LEARNING DISABILITIES

Unit Structure:

- 4.0 Introduction
- 4.1 Objectives
- 4.2 Specialized Approaches and Techniques of Teaching Students with Learning Disabilities
 - 4.2.1 Specialized Approaches
 - 4.2.2 Teaching Approaches
 - 4.2.3 General Instructional Techniques
 - 4.2.4 Strategies of Teaching Students with Learning Disabilities
- 4.3 Role of Resource/Special Teacher
- 4.4 Role of Regular Classroom Teacher
- 4.5 Summing Up
- 4.6 Questions and Exercises
- 4.7 References and Suggested Readings
- 4.8 Answers to Check Your Progress

4.0 Introduction:

Learning disability refers to a group of disorders relating to acquisition and use of listening, speaking, reading, writing, reasoning, mathematical abilities and social skills. Conservative estimates indicate three per cent of school children to be learning disabled. So far as in the previous unit you have studied various educational provisions for learning disability which consist of day school/ special school, special class in a regular school, special remedial and educational programme and provisions for improving the existing environmental set-up. In order to teach these children there are various types of specialized approaches and techniques of teaching which

shall be adopted by a teacher to teach students with learning disability. In spite of different educational provisions there are certain general techniques of instruction for the children with learning disability. Basal reading, phonic approach, language experience approach, programmed instruction, multi-sensory approaches are used with differential effectiveness. Specific procedures are available for improvement of handwriting, spelling, writing, reading, arithmetic and these are outlined in detail in the text, including curricular concerns.

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4.1 Objectives:

After going through this unit you will be able to—

- *know* various specialized approaches and Techniques of Teaching Students with Learning Disabilities,
- *know* specialized approaches for teaching Students with Learning Disabilities,
- *know* various Teaching Approaches for teaching Students with Learning Disabilities,
- *use* various general Instructional Techniques.

4.2 Approaches and Techniques of Teaching Students with Learning Disabilities:

There are various types of specialized approaches to teach students with learning disabilities. They are as follows—

4.2.1 Approaches for teaching Students with Learning Disabilities:

- i. **Behavioral Approach:** In this approach, attempts are made to modify the behaviour of the Learning Disabled by reorganizing the environmental conditions, providing opportunities for modifications in behaviour and properly re-imposing their change behaviour.

Space for Learner

- ii. **Psychoanalytical Approach:** In this approach, attempts are made to find out the root cause of this learning deficiency. Accordingly, a remedial program is planned.
- iii. **Individualized Instructional Approach:** This approach advocates the use of small groups or even individuals for helping them rectify their learning deficiencies.
- iv. **Self-instructional Approach:** In this approach, Learning Disabled children are required to adopt self-learning and self-improvement measures for treating their learning deficiencies. For this purpose, remedial programs like computer-assisted Instruction, Teaching Machines, Instructional CDs, Tape recorder etc can be used.
- v. **Multisensory Approach:** In this approach, Learning Disabled children are taught by appealing to their multiple senses, visual, auditory, touch, smell and taste etc.
- vi. **Technological Approach:** Advanced technology is used for providing remedial programs for the Learning Disabled. Some example is video- disc instructions, computer-assisted instruction, Audiotape and tape recorder-etc.

STOP TO CONSIDER

There are various types of specialized approaches to teach students with learning disabilities. They are Behavioral Approach, Technological Approach, Individualized Instructional Approach, Self-instructional Approach, Multisensory Approach, and Psychoanalytical Approach.

4.2.2 Teaching Approaches for teaching Students with Learning

Disabilities:

Teaching Approach	Advantages	Disadvantages
Basal	<ol style="list-style-type: none"> 1. Comprehensive 2. Controlled vocabulary 3. Sequential introduction of skills. 4. Reinforcement of skills. 5. Diagnostic and evaluative material usually provided. 	<ol style="list-style-type: none"> 1. Limited flexibility in teaching style. 2. Individualized instruction not encouraged. 3. Lack of depth of material necessary for skill mastery. 4. Lack of provision for processing deficits. 5. No choice of analytic or synthetic phonics instruction. 6. Subject to repetition of the same stories and methods resulting from failure.
Phonics	<ol style="list-style-type: none"> 1. Effective decoding techniques for pupils with good auditory abilities. 	<ol style="list-style-type: none"> 1. Not effective for pupils with auditory deficits. 2. May be taught in isolation. 3. Comprehension neglected. 4. Invariance in English language may cause confusion.
Linguistic	<ol style="list-style-type: none"> 1. Control for irregular spelling in initial stages. 2. Gradual introduction of phonics. 3. Extensive repetition. 	<ol style="list-style-type: none"> 1. Little emphasis on comprehension in initial stages. 2. Vocabulary controlled for regular elements and does not utilize spoken language of pupil.
Language Experience	<ol style="list-style-type: none"> 1. Motivates with personal stories. 2. Uses pupil's oral language. 3. Can incorporate specific skill development. 4. Can include language art skills. 5. Good for pupils with good visual-motor abilities. 	<ol style="list-style-type: none"> 1. May be limited by pupils' language level. 2. Lacks structured systematic approach to skill development.
Programmed Instruction Materials	<ol style="list-style-type: none"> 1. Small, sequential steps. 2. Immediate feedback. 3. May be boring because of Materials consistency. 	<ol style="list-style-type: none"> 1. Lacks direct instruction. 2. May be confusing format.
Multisensory	<ol style="list-style-type: none"> 1. Uses more than one sensory input to get message to the brain. 2. Can use an analytic approach or a synthetic approach. 	<ol style="list-style-type: none"> 1. Lack of sequential skill development in some programs. 2. Sensory overload experienced by some pupils.
Rebus Picture	<ol style="list-style-type: none"> 1. Uses a rebus (picture) instead of a initial stages of reading. 2. Well structured materials. 3. Provides for transition to traditional print materials. 	<ol style="list-style-type: none"> 1. Format appearing immature for older pupils

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CHECK YOUR PROGRESS

Que.1: What are the different approaches of teaching students with learning disability?

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Que.2: What are the different teaching approaches used to teach learning disable students?

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- **Handwriting:**

Poor handwriting in the learning disabled has been attributed to numerous causes: Poor fine motor control, poor visual discrimination and memory, spatial difficulties. Manipulative exercises can be used to strengthen muscles: cutting, modelling clay games. Chalkboard practice should precede pencil and paper writing. Proper position for writing habit to develop. Paper should not be placed at a slant for manuscript writing. The writing instrument is held between thumb and middle finger with index finger applying pressure. Graph paper is of valuable help to teach pupils with special difficulties. A creative teacher improves handwriting using certain techniques as detailed below:

In addition, —

- Tape alphabet forms to the floor. Have them reproduce the form with coloured chalk.
- Have pupils use a stick and their bodies to form the letters.
- Write each letter in a paper with red marker.
- Have pupils form letters in wet finger-paint.
- Use coloured directional cues such as green arrows and red dots.
- Teach manuscript letter forms that are oval and slanted slightly. This will encourage left-to-right progression and will facilitate transition to cursive writing.

- Teach pupils to start all lower-case cursive letters from the line.
- Help pupils to form an association for a letter they have difficulty in remembering.
- Have pupils orally describe their movements as the letter is being written. This provides auditory reinforcement.

The various approaches used in teaching by the resource teacher or specialist or classroom teacher have relative advantages and disadvantages.

- **Spelling:**

Spelling errors are quite common among learning disabled children. Therefore a systematic work-study technique is used in the following sequence. “Look at the word—say the word—say the word—look at the word—cover the word—write the word—check your spelling—Repeat”. Some of the remedial techniques involve—writing the word on the chalk and then trace it in fingers until it disappears tracing in sand, write the first letter of the word when one listens the word and then pronounce. Ask the children to spell the word properly and clap softly for each vowel sound, if possible by looking at the word.

- **Arithmetic:**

There are certain specific remedial instruction steps for removing arithmetic errors of learning disabled children. Some of the steps are as follows:

Use manipulative such as buttons and chips to teach number. Use visual material and give reinforcement. Use graph paper for alignment difficulties. Time line, coloured chalks, markings are helpful for attention to cues. A sample problem can be given for each assignment. The size of numbers can vary to indicate more or less. Reduce distractions as far as possible. Reduce number of examples in the assignment and eliminate copying. Use of display charts, abacus, playing cards, calculator, language master are quite useful.

Space for Learner

- **Curricular Concerns:**

Learning disabled children read in the class as other children. Hence, certain extra care would benefit these pupils. These concerns may relate to four areas; such as:

- **Auditory Perception:**

- Identify classmates from voice when one is blind.
- Produce a speech sound and ask if they listen.
- Ask whether pairs of words are same or different.
- Start naming objects that starts with a particular sound.
- Practice rhymes.
- Ask them to repeat oral directions.
- Tell a sequence of information to improve auditory memory.

- **Visual Perception:**

- Match a geometric design.
- Ask them to replicate a pattern.
- Ask them to classify objects.
- Match, sort and group word cards.
- Start copying designs from simple to complex.
- Tell a story with pictures. Then scramble the pictures and ask pupils to tell the story.
- Recall letters speedily and find a series of letters in words.

- **Sensory Motor Development:**

- Manipulation of object according to directions i.e., in front of, in the middle etc.
- Use puzzles.
- Reproduce block designs.
- Pour water in different containers.
- Design games.
- Use tracing, lacing and cutting activities and visual tracking activities.

- **Social Skills:**

- Discuss different emotions through pictures.
- Explain body language and symbols.

- Use T.V. for explaining social encounters and social interactions.
- Identify topics for discussion with peers, neighbors.
- Remember key points of conversation.
- Discuss personal experiences that have caused social difficulties.

Mildly and moderately learning disabled pupils can function satisfactorily in the regular classroom with these adjustments. The regular classroom curriculum may require little modification. These are some of the general techniques of remediation but a specific theoretical model should guide the practitioner.

However, learning disabilities cannot be corrected or cured by a specific teaching method or training technique. It is imperative that teachers have a wide range of instructional materials and techniques at their disposal and that they are imaginative and flexible enough to adapt these to specific needs of their pupils.

4.2.3 General Instructional Techniques:

In spite of different educational provisions there are certain general techniques of instruction. The following instructional techniques have been used and recommended for use with LD students.

- use short, brief directions, large print.
- use consistent language, colour cues.
- write directions or steps on the chalkboard i.e., underline important words etc.
- alternate the use of colours for each step in a series on directions.
- increase sound level of instruction.
- use diagrams or pictorial illustrations.
- use an overview of the lesson, ask questions, and ask them to read the material, recite and review.

Space for Learner

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Since LD students lack structure and organisation, they have to be told to, keep daily engaged in the activities; list all future events that need to be scheduled. Provide a hypothetical list to suggest possible events; and plan future events that must be planned, it is time to develop a weekly schedule. Pupils in the upper grades may find useful a schedule that provides for specific subject matter assignments on various types of activities.

Thinking skills can be developed by guiding students collect data by reading, listening, and observing; and discriminate differences on similarities in the data. Teacher questioning can be used to prod the pupil until the ability to make these discriminations improves. Ask the pupil categories and classify the data. Labeling is important during this stage.

Have the pupil re-categories and classify the data in other ways. This continuous re-organisation and restructuring is necessary to integrate new information and new experiences into the pupil's mental structures. Have the pupil make predictions based on the data. Have the pupil generate alternative predictions using the same data. Have the pupil evaluate the alternative predictions by comparing and contrasting possible outcomes and their effects.

Memory ability can be improved by using certain specific techniques; visual and auditory messages can be recalled. Facial expressions indicative of certain materials can be retrieved. Cramming is to be avoided. Certain activities can be practiced to improve auditory, visual memories.

- Have pupils repeat telephone numbers and street address of emergency service facilities (police, fire, etc.).
- Have pupils learn songs by listening to the words and tunes.
- Play games in which the first pupils makes a statement, the next pupil repeats that and adds a statement, the third pupil repeats those statements and adds one, and so on.
- Have pupils make up rhymes related to subject matter, such as, "In 1492 Columbus sailed the ocean blue".
- Have pupils repeat oral directions.

Space for Learner

- Have pupils re-sequence cartoon strips (without words) that have been cut apart. This forces them to observe details in the pictures.
- Have pupils describe configurations of words that are similar.
- Have pupils repeat the sequence for a recipe that they have read.
- Have the pupil practice attending to larger units at one time. For instance, some try to copy one syllable at a time. Encourage the pupil to increase the length of the visual stimulus that she holds in her mind as she writes it down.
- Help the pupil to practice internal auditorization as an adjunct to visual memory; that is, have the pupil say the letters or words to her while she is translating the written information.
- Write every other item on the chalkboard with a different colour chalk. This helps the pupil to “find her place”.
- Allow the pupils to copy another pupil’s work. Some of these pupils perform better with paper-to-paper copying.

Teachers must be flexible in their approach to teaching reading because of the heterogenous characteristics of learning disabled pupils. A diagnostic prescriptive approach must be used. The reading programme must be matched to pupil’s need and abilities. There are several approaches having different degree of relevance.

The Basal reading approach is comprehensive, which uses controlled vocabulary in a sequential manner with adequate reinforcement. Diagnosis is done in course of teaching but it is not so advantageous for LD children because of its rigidity, individualized nature and lack of provision for removing deficits.

Phonic approach has very limited use especially only for those who had good auditory capacity. Linguistic training also has limited use as it does not aid comprehension.

Space for Learner

Language experience approach is most useful as it uses stories personal experiences, child’s oral language, incorporates specific skill development, language art skills and makes use of visual motor abilities. Programme instruction is also another viable technique. The other approaches to reading use multisensory approach and use of pictures. Both the methods have limitations. Because of complexities of both the reading process and learning disabilities, it is difficult to make definitive statements.

CHECK YOUR PROGRESS

Que.3: What are the various general instructional techniques of teaching students with learning disability?

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4.2.4 Strategies of Teaching Students with Learning Disabilities:

The needs of children with different disabilities vary considerably in accomplishing the tasks prescribed by the curriculum. Some children may need only a reading medium as in the case of the visually impaired; whereas others may require a different technique such as lip reading or sign language as in the case of the hearing impaired. Still others like slow learners may require a different presentation. For example, the units of the curriculum may not have been presented in a concrete fashion and made much smaller. All these could be regarded as forms of curriculum adaptation.

With the help of a resource teacher, curriculum adaptations are possible without disturbing the work of the classrooms or adversely affecting the educational process of other children. *Curriculum modification* needs to be interpreted in this fashion. Curriculum modification should not be interpreted to mean curriculum substitution. It is not possible in any

educational setting to transact two curricula in the same classroom. *Curriculum adaptation* may call for assistance to the teacher. This can be done by adopting several techniques like peer tutoring, cooperative learning, child-to-child learning and even voluntary participation of the parents. The techniques may have to be adapted, bearing in mind the specific needs of students with different disabilities. This unit also highlights some strategies that can help a child with a learning disability.

Teaching Strategies:

- **Task Analysis:** The teacher can choose an appropriate learning task for the child to master and the final objective should be stated clearly. The final goal is broken down into smaller steps arranged in order of difficulty, with each item being a prerequisite for the subsequent one until the ultimate goal is reached. For example; in teaching a child how to identify colour red, the following steps may be involved: (i) matching red coloured objects from a group of three or more colours. (ii) pointing to red colour from a group of red and blue colours, when presented in any order, (iii) pointing to red colour from a group of red, green and blue colours, when presented in any order, and (iv) pointing to red colour from a group of red, green, yellow and blue colours, when presented in any order.
- **Structured Lesson Presentations:** Students with learning disabilities achieve more when lessons are clearly presented, well sequenced and well organised. Explanations should be concise and clearly understood with the key concepts highlighted. Content and way of presentation should vary according to each child's unique abilities and weaknesses. In other words, it should suit the needs of the child.
- **Organized Equipment and Materials:** The teacher must organise the equipment and materials needed before starting a lesson. The teacher should ensure that the equipment and materials are relevant, easy to comprehend and also related to the material that is being taught.
- **Peer Teaching:** This strategy is also known as child-to-child approach. In this strategy, one student who has proficiency in a skill teaches another student who has problem in learning a concept on a one-to-one basis. A competent student is paired with one who has difficulty in a given

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Space for Learner

academic area. Tutoring may also be cross-age in which an older student gives instruction to a younger student. Usually the tutor with average or above average ability teaches a student with equal or lower ability. This method must take into account: (a) role of the tutor; (b) selection of the tutor; (c) training of the peer tutor; (d) specific needs of both tutor and the taught; (e) time and effort required for actual tutoring; and (f) supervision of peer tutoring arrangement. It is helpful for the teacher to demonstrate the procedures for the pair. The teacher determines the skills to be taught, the materials to be used and the instructional activity.

- **Multi-Sensory Approach:** The multi-sensory method is based on the premise that some children learn best when content is presented in more than one modality. All modalities such as kinesthetic related to movement of the body, touch stimulation along with visual and auditory senses are used to make learning more effective for the child. In this approach, the child sees, feels, says and hears the content. The multi-sensory techniques that include tracing, hearing, writing and seeing are often referred to as VAKT (visual-auditory-kinesthetic-tactile). In this approach, embossed letters, models, visual aids, blocks, puzzles and other teaching learning material can be used.
- **Cooperative Learning:** Cooperative learning is a method of effectively using student groups in a classroom. The primary elements involved in this technique are: positive interdependence, or the feeling that individual goal attainment relies on the performance of all group members, student's own responsibility, face-to-face interaction with peers, use of social skills and involvement of a group as a whole in the completion of a given academic task. Cooperative learning is an instructional arrangement in which small groups or teams of students work together to achieve team success in a manner that promotes student responsibility for their own learning as well as the learning of others. For example, four students can be placed in a group such that one is a high achiever, two are average achievers and one is a low achiever. Studies have shown that it is not only the low achievers who benefit from cooperative learning, but the high achievers also show significant gains. Cooperative learning can also be used in cross age and multi-grade settings.

Cooperative learning has been suggested as a technique for aiding in the mainstreaming of mild to severely learning disabled students. Students identified as learning disabled often lack the social skills necessary for positive peer interaction. Cooperative learning provides an opportunity for the observation of peers and the development of good social skills, as well as helping all students in improving academically. However, the teacher has to be skilled enough to form the groups appropriately so that the goal can be achieved.

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STOP TO CONSIDER

There are various types of Strategies of Teaching Students with Learning Disabilities. They are task analysis, structured lesson presentations, organised equipment and materials, peer teaching, multi-sensory approach and cooperative learning.

A. Teaching in specific areas: Some of the strategies that a teacher can use in the classroom for specific areas are given below:

Reading:

- New concepts and vocabulary should be introduced gradually.
- While reading, ask questions from the child to enhance his/her understanding of the content.
- Worksheets are useful in strengthening reading skills.
- Read aloud to students regularly.
- Provide meaningful reading material such as dictionaries, categorised lists of words.
- Let the child read aloud (oral reading). If the child makes mistakes, they can be easily identified by the teacher and corrected.
- Reading can be done with peers or with parents (paired reading). This will enhance the confidence of the child

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- Read as a group (choral reading). Here the children get both auditory and visual stimulation to correct them.
- Use of colour also helps in providing some useful hints to children, who have problems with reading. For example, if the child confuses between b and d, b could be coloured with green and d with red.
- Have the whole class also read aloud in a large group.

Writing:

- Sufficient time should be given for writing activities.
- Expose students to a broad range of writing material.
- Students should be given those writing activities which give them an opportunity to express themselves.
- Teachers should encourage the children to write more in a non-threatening environment. This helps the children to gain confidence over themselves.
- A holistic approach should be used to enhance the writing skills in a child. It should be integrated with other academic subjects.
- Help students focus on those processes that are required for good writing. The students should also be exposed to the different stages of writing such as pre-writing, writing and re-writing.
- The teachers in their lessons should also inform the students about the characteristics of good writing.
- Peers with good writing could also become models for those children, who manifest problems with writing.
- After the child has completed a written exercise, he/she should be encouraged to edit it also. This helps the child in recognizing his/her mistakes.

- The teacher should also watch the posture, pencil grip and position of the paper when a child is writing.
- Encourage the child to draw patterns. This helps the child in dealing with his/her inability to track.
- The arm movement of the child should also be closely watched.
- Tape alphabets forms to the floor. Have students play with them in any manner they like.
- Have student's form letters in clay.
- Use coloured cues in writing, such as blue signs and orange dots.
- Help students to form an association for a letter they have difficulty in remembering
- Have students describe the formation of the letter as it is being written. This kind of memorizing provides auditory reinforcement.

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Mathematics:

- Use concrete material such as buttons, straws, seeds, pebbles and beads to teach children how to count
- Teacher should use a lot of visual aids to teach simple mathematical operations and concepts • Tactile materials such as embossed numerals, symbols should be used to teach simple concepts such as more or less, short or long. Various lengths and sizes could be taught by tactile presentations
- Concepts such as time and money should be linked to day-to-day events. Use of meaningful vocabulary which includes phrases as tomorrow, in five minutes, as soon as possible will help the child in increasing his/her awareness about concepts related to time.

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- Worksheet activities are also useful in teaching math/ math problems to children with learning disabilities, having difficulty in math.
- Give smaller number of problems to these children. These children can also be given some extra time to complete math assignments.
- Playing cards can be used to teach computation skills to children. Some simple games could also be developed with the help of playing cards.
- Blocks, puzzles and word games are always helpful in making the process of learning mathematical concepts more joyful for the child.
- Use of colours again can give some useful hints. Highlighters can be used to specify directionality and signs (+, x).
- Display charts that explain the process, signs and tell what key words indicate in word problems are also of help to children having problems with math.
- Apply the basic concept of measurement in activities that could be practiced in and outside the classroom.
- Have students estimate distance, weights, and sizes etc.
- Have students use an abacus to facilitate counting, calculations etc.
- Teach students to use rules (e.g. any number times 2 is double that number).
- Difficult problems should be taught with flash cards.
- Play instructional math games.
- Teach students the relationships between addition and subtraction or multiplication and division.
- Use of colours (green means multiplication and red means addition) can prevent these children from being confused between number, symbols and signs.

- Use the method of attack strategy training. In this method, the child uses certain strategies for specific academic problems. Arithmetic computations can be taught with this method.

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Attention Deficit Hyperactive Disorder:

- “Reward the student for being prepared by allowing him/ her to participate in favorite activities, conferring classroom privileges (like making the child monitor of the class).
- Establish routines for placing objects, especially routinely used objects such as books or assignments.
- Point out to the salient features of the assignments (topic sentences, headings or table of contents).
- Provide the student with a list of materials needed for each task. Limit the list to only those materials, necessary to complete the task.
- Enhance the clarity of instructions. Repeat as often in a clear, calm tone.
- Shorten the task by breaking one task, into smaller parts to be completed.
- Make tasks more interesting.
- Increase the novelty of the task by using a game format.
- Use curriculum materials that arouse interest” (Lerner, Lowenthal and Lerner, 1995).

CHECK YOUR PROGRESS

Que.4: What are the various teaching strategies to be adopted by a teacher to teach learning disable students?

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Que.5: What are the specific areas that a teacher can use in the classroom for teaching in LD students?

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B. General Interventions for Children with Learning Disabilities:

- Show, demonstrate and model.
- Utilize multi-sensory learning.
- Avoid distractible surroundings.
- Break information down into smaller units.
- Learn how to do a task analysis of goals needed by students by defining the discrete behaviors' or skills leading up to attainment of the final goal, and lead students step-by-step through them to assure success.
- Allow plenty of time to these children to work upon a task as they have poor time management skills.
- These children need to do a task many times before he can master it.
- Give smaller number of problems to these children. These children can also be given some extra time to complete math assignments.
- Playing cards can be used to teach computation skills to children. Some simple games could also be developed with the help of playing cards.
- Blocks, puzzles and word games are always helpful in making the process of learning mathematical concepts more joyful for the child.
- Use of colours again can give some useful hints. Highlighters can be used to specify directionality and signs (+, x).

- Display charts that explain the process, signs and tell what key words indicate in word problems are also of help to children having problems with math.
- Apply the basic concept of measurement in activities that could be practiced in and outside the classroom.
- Have students estimate distance, weights, and sizes etc.
- Have students use an abacus to facilitate counting, calculations etc.
- Teach students to use rules (e.g. any number times 2 is double that number).
- Difficult problems should be taught with flash cards.
- Play instructional math games.
- Teach students the relationships between addition and subtraction or multiplication and division.
- Use of colours (green means multiplication and red means addition) can prevent these children from being confused between number, symbols and signs.
- Use the method of attack strategy training. In this method, the child uses certain strategies for specific academic problems. Arithmetic computations can be taught with this method.

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4.3 The Role of Resource/Special Teacher:

The LD children as a group are heterogeneous. As such they require a variety of techniques approaches as well as materials to satisfy their unique educational needs at different levels of development.

At the preschool level, the environment should be arranged to promote efficiency, accessibility, independence and functionality. Safety is also a factor in the preschool setting. Heavy breakable and dangerous materials should be out of reach of these children. At the elementary level

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children classrooms should not be noisy, visually distracting and sterile. The special educator and the regular classroom teacher should provide a less distracting environment for students who are overtly distractible and hence learning disabled. Such children can be placed in the centre of the classroom where more often teacher's attention is focused.

Although small group permits individualized instruction yet has demonstrated the efficacy of peer tutoring in instruction, seat work and special projects. Care should be taken to select a good regular peer.

Structure in planning the instructional programme is a must for learning disabled children. The curriculum should be organized sequential and routine based so that the LD child can attend to it carefully. For this task analysis procedure is most relevant. This enables the teacher to break the task into components and help the student at each stage.

The teacher should also provide a summary presentation after each sub-plan of teaching so that LD children can learn well in school and this will provide as an advance organizer for learning.

The equipments and materials must be ready to be used in 'dead time' when the LD children have nothing to do. They cannot waste their times. There are a number of specific teaching procedures' that have been used to remedial academic deficits or failures among LD children. One of the general approaches is cognitive behaviour modification. They help children internalize efficient learning strategies by actively involving them in the learning process mostly consisting of self instruction and verbalization.

LD children lack abilities for metacognition. Hence, teacher can initiate self questioning strategies for students to use while reading: finding main ideas, underline, answering questions, writing down, asking himself the purpose of reading etc. self instructional techniques has been found quite effective for LD children.

Precision teaching is a system of evaluating and improving instruction. It is direct, continuous and precise measure of student progress where the teacher records a wide range of behaviors. They help teachers on track and make accurate instructional decisions.

As regards teaching contents and materials it should be motivating, non-complex, and appropriate for child's level of functioning, and learning style. Using student's name, talents or interests is one way a teacher can make assignments more motivating. Illustrations, too much use of colours in the printed page do distract learning disabled children. Educational games capture students' attention and make learning exciting.

Multisensory approaches have also been applied to teach LD children. Visual, Auditory, Kinaesthetic, and Tactile (VAKT) was developed by Fernald (1943) which is essentially a language experience. He selects a word and goes through feeling seeing, saying and hearing the word. Once the word is mastered the teacher helps them to write a story and then gives him feedback. In this way new words are learned. Children can be taught through association of a how a letter or word looks, sounds and feels. After he learns the words sentence and story writing begin, gradually they begin to read. There are several combinations of multisensory teaching methods.

Direct instruction which includes assessment, instruction and evaluation are used. DISTAR is one of the direct instructional systems which teaching sequences are so arranged that errors are minimised, it provides ample practice, and give immediate and positive feedback. Distar includes Mathematics and reading components. DISTAR was used first with disadvantaged children and now with LD. It is a back to basics structured programme. Learning strategies are also used for helping LD children to learn. Computer assisted instruction is also being introduced in the school system for the management of IEP (Lerner, 1985).

4.4 Role of Regular Classroom Teacher:

A teacher in a mainstreamed classroom has to make the classroom personalized where individual differences are accepted and valued. Teachers lead students to value and accept personal responsibility for their own learning. They should promote independence, cooperative functioning, and problem solving among all students. Specifically, they—

- Accept the perception of learner about classroom environment.

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- Provide varieties of options to motivate each child.
- Encourage independent and small group work.
- Increase pupil's commitment, control, and responsibility.
- Informal and formal conferences are held.
- Ongoing assessment and student evaluation are done to know the each student's progress.

To make these implementable in the regular classroom:

- A structured programme has to be avoided.
- Allow distractible student to sit in centre.
- Use peer teaching and allow the LD child to be tutor.
- Drive homework on the curriculum taught.
- Keep close contact with parents.
- Tailor the programme to student's needs.
- Make task analysis and lead student step by step for learning.

Learning difficulties are quite pervasive and non-specific, which arise out of several factors and are achievement specific. In regular schools, learning disabled students can be handled well if regular and resource teachers become conscious and sensitive to the problems of these children. The various concerns expressed in the field are mentioned along with tips for relevant remedial measures.

4.5 Summing Up:

Learning disability refers to a group of disorders relating to acquisition and use of listening, speaking, reading, writing, reasoning, mathematical abilities and social skills. Conservative estimates indicate three per cent of school children to be learning disabled.

Causes of LD include organic (Cerebral hemorrhage, high fever, head injury, premature birth, anoxia, trauma, neurochemical dysfunction, minimal brain dysfunction, hypoglycemia or low blood sugar, hereditary (Turner's Syndrome) and environmental factors (use of drugs, alcohol, Rubella infection, birth injury, poor and inadequate instruction in school).

LD children are identified by their gross discrepancy in ability and achievement, low achievement, scattered assessment profile through tests and observation of behaviors, distractibility, inattentiveness, wrong perception, problem of left and right remembering and organization difficulties. DIAL is used for early identification of LD in addition to PPVT, BTBC, EDC etc.

Characteristics of LD children include hyperactivity, perceptual motor impairment, emotional liability, impulsivity, disorders in speech and learning, equivocal neurological signs, language difficulties in reception and expression, reading troubles or dyslexia.

Educational provisions consist of day school, special class in a regular school, and integrated classroom. In order to teach these children general instructional techniques (use of short and brief directions, large print, consistent language, increased sound level of instruction, pictorial presentations), use of memory training strategies, Basal reading, phonic approach, language experience approach, programmed instruction, multi-sensory approaches are used with differential effectiveness. Specific procedures are available for improvement of handwriting, spelling, writing, reading, arithmetic and these are outlined in detail in the text, including curricular concerns (auditory perception, visual perception, sensorimotor development, social skills).

The role of special/resource teachers include awareness and adoption of small group instruction, classroom arrangement, equipments and materials, precision teaching, multisensory teaching, direct instruction and IEP. The regular teacher has to make classroom personalized and accepting, encouraging, motivating, structured tailor made to needs with appropriate task analysis. Both special education and integration are recommended for LD children but the focus is more on the mainstreaming.

4.6 Questions and Exercises:

1. Discuss different approaches of teaching learning disable students.
2. Discuss different teaching approaches of teaching learning disable students. State its advantages and disadvantages?
3. What are the instructional techniques to be used and recommended for use with LD students?
4. What are the various Strategies of Teaching Students with Learning Disabilities?
5. Discuss the role of Resource/Special Teacher for improving learning disabilities among students.
6. Discuss the role of regular classroom Teacher for improving learning disabilities among students.

4.7 References and Suggested Readings:

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4.8 Answers to Check Your Progress:

Ans No 1: There are various types of specialized approaches to teach students with learning disabilities. They are Behavioral Approach,

Technological Approach, Individualized Instructional Approach, Self-instructional Approach, Multisensory Approach, and Psychoanalytical Approach.

Ans No 2: Basal, Phonics, Linguistic, Language Experience, Programmed Instruction Materials, Multisensory, Rebus picture are some of the teaching approaches for the students having learning disability.

Ans No 3: These are the following instructional techniques that have been used and recommended for LD students.

- use short, brief directions, large print.
- use consistent language, colour cues.
- write directions or steps on the chalkboard i.e., underline important words etc.
- alternate the use of colours for each step in a series on directions.
- increase sound level of instruction.
- use diagrams or pictorial illustrations.
- use an overview of the lesson, ask questions, and ask them to read the material, recite and review.

Ans No 4: There are various types of Strategies of Teaching Students with Learning Disabilities. They are task analysis, structured lesson presentations, organized equipment and materials, peer teaching, multi-sensory approach and cooperative learning.

Ans No 5: Reading, Writing, Mathematics, Attention deficit hyperactive disorder are some of the specific areas that a teacher can use in the classroom for teaching in LD students.

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