TRAINING MODULE ON LEARNING DIDSABILITY

PASCHIM BANG SARVA SHIKSHA MISSIOM
Bikash Bhaban, kolkota, West Bengal
in collaboration with
DISTANCE EDUCATION PROGRAMME-
SARVA SHIKSHA ABHIYAN (DEP-SSA)
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About the Document

One of the objectives of SSA is to provide meaningful and quality education to all children of 6-14 year age group. Addressing the need of every child is the thrust of in-service continuing education of teacher under Sarva Shiksha Abhiyan. SSA emphasizes the importance of implementing open distance learning mode for training of teachers and other functionaries. It will supplement the face-to-face training by using multimedia packages, printed text (self-learning modules, workbook, assignments, brochures, etc.), audio-video programmes (cassettes, broadcast and interaction), teleconferencing computers, multimedia–CD, online courses, etc". Department of School Education and Literacy, MHRD, Govt. of India created a centre known as Distance Education Programme-Sarva Shiksha Abhiyan (DEP-SSA) for implementation of open distance education activities under SSA with an object to build capacity of institutions and functionaries at the national, state, district and sub-district levels in planning, designing, developing, organizing and evaluating distance learning input/materials. The Indira Gandhi National Open University, world's largest Open University entrusted with the responsibility to implement the DEP under SSA across the country.

DEP-SSA in collaboration with Paschim Bang Sarva Shiksha Mission (PBSSM) developed a training module on **Learning Disabilities** for training and orientation of field level functionaries like teachers, teacher educators, DRG members of west Bengal under SSA. This is an attempt to develop professional competencies of teachers to cater to the needs of children with learning disabilities. The module consists of 10 units. Detailed abound each unit is discussed below.

Unit 1: Understanding Learning Disabilities

This unit focuses on orienting the teachers and teacher educators on how to differentiate between learning difficulties and learning disabilities and explain the concept of learning difficulties of children with examples and illustrations. Teacher teaching at elementary level must have a basic understanding of the concept of learning difficulties is the thrust of this unit.

Unit 2: Characteristics, Causes and Types of Learning Disabilities

This unit deals with various characteristics of learning disabilities which will help teachers and teacher educators to identify children with learning disabilities and the underlying cause of this disability. Different types of learning disabilities and associated disorders are discussed in this unit.

Unit 3: Identification of Various Types of Learning Disabilities

One of the important roles of classroom teacher is successfully identifying, assessing and providing remedial measures to the children as per their needs. Children with learning disabilities generally have normal or above average intellectual ability. They reach most of

the developmental milestones at the appropriate age level or even sometimes earlier. Usually they are not easily differentiated from normal population. They may go undetected till they experience continuous failures in academic skills. This unit is aims at helping teachers to identify the various types of learning disabled in detail and develop appropriate strategies accordingly.

Unit 4: Bases for Interventions

This unit primarily focuses on developing competencies of teachers to familiarize the fundamental facts about the bases for the intervention strategies. As a teacher we have experienced that child being described as having the capabilities yet unable to perform. This unit throw light on such children and the multiple options available to address and manage such cases effectively.

Unit 5: Teaching Learning Strategies and Material-I

The aim of this unit is to design specific teaching learning material to handle children with learning disabilities so that child can learn more effectively. This unit will give broad overview of teaching and learning strategies for handling children with learning disabilities and also about some basic ideas about the teaching learning materials and their implementation those strategies for facilitating their learning.

Unit 6: Teaching Learning Strategies and   Material-II

This unit will enable you to develop clarity on appropriate teaching learning strategies; explain various form/modes of teaching learning strategies; and describe the implementation of appropriate teaching learning materials for facilitating learning of children with learning disabilities.

Unit 7: Supportive Interventions

In this unit reflects the importance of co-curricular activities and their significance in handling children with learning disabilities. Other supportive interventions like; occupational therapy; speech and language therapy and behaviour modification are also contribute significantly towards learning of children. A systematic behaviour modification programme is considered to be the most effective means in minimizing the problem behaviour as well as enhancing the behavioural skills of children.

Unit 8: Skill Development

In this unit an attempt has been made to discuss appropriate skill development among the children with learning disabilities. It helps the teachers and teacher educators to explain the development and importance of social, emotional, behavioural and life skills; and describes

and develops these skills in children with learning disabilities **Unit 9: Awareness and Resource Mobilization**

This unit will focus on the awareness and resource mobilization particularly for the children with disabilities within the SSA context. It describes the role of teachers, BRC / CRC in the context of education of children with learning disabilities and focuses on role and responsibilities of Village Education Committee.

Unit 10: Utilisation of SSA Resources for Children with Learning Disabilities and Referral Agencies

This Unit focuses on the role of resource room and resource teacher under SSA, teaching learning material used for children with learning disabilities, accommodations required for them and referral agencies for learning disabilities with reference to the SSA. The basic objective is to make the functionaries of SSA realize the necessity of appropriate support system and their importance for providing meaningful education to children with learning disabilities.

This is an informative document which covers various fundamental aspects to enable classroom teachers to improve their competencies on one hand and facilitating learning of children with learning disabilities on the other hand. I hope this module will provide a great support to trainers and master trainers associated with training of teachers at elementary level. We welcome suggestions and comments for further improvement of this document in future.

M. K. Dash
Programme Officer

UNIT 1   UNDERSTANDING LEARNING DISABILITIES

Structure

1.1   INTRODUCTION

Over the years you all must have seen many different kinds of students; some very bright, some average and some not so bright. Some may have been hardworking but still not managing to do well and some may be so bright that it was all very easy for them. Did you ever wonder why such differences exist? Some of you may have wondered and even tried to help the children whom you felt required assistance. In more cases than not the help or assistance given by the teachers in the classroom brings the performance of the child to an accepted level. But there are many children who despite getting some help from the teachers do not fare well and continue to deteriorate as they go up to higher classes. There is a possibility that these children have what is called Learning Disabilities. Simply put Learning Disabilities is a *neurological* condition which affects about 10-12% of the population and is prevalent everywhere – in all countries, cultures, economies, all schools and institutions.

A child who is unable to read or spell, a child who is unable to write, a child who has trouble remembering tables, a child who writes "b" for "d" or "12" for "21" or even "was" for "saw", a child who answers well orally but is not able to write the answers down, a child who is unable to finish his work in the classroom, a child who is unable to follow your instructions, a child who has illegible handwriting, a child who does not have friends are a few examples of symptoms shown by children with Learning Disabilities.

Have you ever come across children with similar problems in you classrooms?

1.2 OBJECTIVES

After reading this unit, the teacher trainee will be able to:

- differentiate between Learning Difficulties and Learning Disabilities;
- explain the concept of Learning Difficulties and its classroom implications; and
- explain the various components/elements of the definition of Learning Disabilities.

1.3 LEARNING DIFFICULTY VS. LEARNING DISABILITIES

Before we try to understand what Learning Disabilities is, it will be helpful to talk about 'Learning'.

1.3.1 What is Learning?

Is it a process?
Is it an event?
Is it a change?
Is it acquiring new skills?
Is it gaining more knowledge?

To say 'Learning could be all of the above' will not be far from truth. Learning has been explained differently by different experts. Lets see what the experts in the field of psychology have to say about Learning.

> "Learning is the process whereby an organism changes in behaviour as a result of experience." (Driscoll, 2000)

> "Learning is a relatively permanent change in capacity for performance, acquired through experience." (Good and Brophy, 1990)

> "Learning is the way human beings acquire new skills, knowledge, attitudes and values. The outcomes of learning are the new capabilities possessed by the learner." (Gredler, 2001)

> "Neuroscientists define learning as two neurons communicating with each other." (Sprenger,1999)

It is a known fact that one must not assume that a learner involves the same set of mental, emotional or physical processes in all types of learning. In other words, different types of learning could involve varied *psychological processes* and need different methods of teaching. To assume that all learners learn in the same manner is an error on the part of the

teachers and needs to be rectified if the objective is to reach out to all the diverse learners in a classroom. Teachers need to identify the different types of learning involved in each area, and then choose teaching methods and strategies that are most likely to facilitate that type of learning.

Three broad categories which provide the basic framework for planning the learning objectives within school curricula are

> - Knowledge
> - Skills
> - Attitudes and Values

Most schools agree that it is their responsibility to facilitate learning in these three categories. We as teachers need to be aware of our responsibilities of making sure that all learners in our classrooms acquire all; knowledge, skills and attitudes and values effectively.

1.3.2   Learning Difficulties and Learning Disabilities

Before we understand the nature of Learning Disabilities it would be of great importance to understand the difference between learning difficulties and learning disabilities. Many a times these phrases are used interchangeably but they are different. Lets find out how these terms differ.

Learning Difficulties implies difficulty a child might face in order to perform at a scholastically expected level. This implies that a child might have problems in doing what his/her classmates are doing. His/her scholastic or academic performance is below class level. Learning difficulties is applied to students who are not making adequate progress in school, especially in the basic skill areas of language, literacy and numeracy. Their problems could be associated with one subject or make be seen across all subjects in the curriculum. Within this large group of students with learning difficulties there is a very small sub-group of children with normal intelligence and no obvious impairment. These students find the learning of basic literacy and mathematical skills very difficult. These students are called Learning Disabled to separate them from the students facing learning difficulties mentioned earlier.

Learning difficulties can occur as a result of any combination of the following influences (collated from Chan, 1998; Cheng, 1998; MacMillan and Siperstein, 2002; Westwood, 2003):

1. Inadequate or inappropriate teaching
2. Unsuitable curriculum
3. Inconducive classroom environment
4. Socio-economic disadvantage
5. Poor relationship between student and teacher
6. Poor school attendance
7. Health problems

8. Learning through medium of a second language
9. Loss of confidence
10. Emotional or behavioural problems
11. Below average intelligence
12. Sensory impairment
13. Specific information processing difficulties

Teaching methods as a cause of learning difficulty

Insufficient or inappropriate teaching especially in the early years can be a reason for having learning difficulty. Students from background where there has not be an opportunity to develop "learning readiness" are at risk . The philosophy saying that children should be allowed to learn at their own pace in some cases appears to backfire as children don't acquire the required skills, knowledge and attitudes that would help them progress. Instead they experience failure and frustration and develop negative feelings towards learning in school (Slavin, 1994).

Curriculum

The content of the curriculum can also create problems. Concepts taught could be at an inappropriately high level as compared to the students' ability or the rate at which the concept is introduced can be very fast. This is more evident in higher classes where the academic pressure is high. Method of transaction of curriculum could also be inappropriate.

Classroom environment

The physical environment of the classroom can also be a cause of learning difficulty. The noise level and multiple sources of distraction can have a negative effect on the attention span of the students. Socio-emotional climate within the classroom can also have a negative influence on the child's performance, if it is not conducive.

Socio-economic disadvantage

Research has shown that socio-economic status (SES) is correlated with school performance. Students coming from higher SES backgrounds tend to have higher academic achievement while lower SES students tend to have poorer results and irregular attendance. They also tend to leave school at the earliest opportunity. Teachers need to understand such students and motivate them to tap their potential to the fullest. It is disheartening and demotivating for the child if they perceive that the teacher is not interested in them.

Poor relationship between student and teacher

For optimum learning to take place, there needs to be good rapport between teacher and students. All students want their teachers to have faith in them and to care about them. If the students do not feel comfortable with their teacher they will not try to get help from them. It

is disheartening and demotivating for the child if they perceive that the teacher is not interested in them.

Poor school attendance

Poor attendance could be due to factors such as health factors or truancy. Frequent absences from school break the continuity of learning. This is especially true for subjects like mathematics where concepts and skills tend to be hierarchical in nature.

Health and physical status

Chronic health problems (like, asthma, diabetes) are a common reason for school absence. Besides they also affect the student's energy level and ability to concentrate in school. Certain conditions like epilepsy requires the student to take medication and this can cause problems in concentration. Learning difficulties in school can sometimes themselves cause pseudo illness in children – they might complain of a headache or stomachache in order to miss school. Lack of sleep can also contribute to learning difficulties in school as this affects the attention span of the student.

Learning through the medium of a second language

Some students, who are not exposed to the medium of instruction (in school) outside of school, may have great difficulties in learning. Their comprehension both receptive and expressive, and their vocabulary are limited which hinders their learning.

Check Your Progress

Notes: a) Space is given below for your answer.

          b) Compare your answer with the one given at the end of this unit.

E1. Differentiate between learning difficulty and learning disability

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E2. Highlight the important causes of learning difficulties because of curriculum

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1.4 DEFINING LEARNING DISABILITIES

Learning Disabilities is a neurological condition which manifests as the "inability" to listen, speak, read, spell, write and do mathematical calculations.

Lets look at a "formal" definition.

The NJCLD (The National Joint Committee for Learning Disabilities) Definition

Learning disabilities is a general term that refers to a heterogeneous group of disorders manifested by significant difficulties in the acquisition and use of listening, speaking, reading, writing, reasoning or mathematical abilities. These disorders are intrinsic to the individual, presumed to be due to central nervous dysfunction and may occur across the life span.

It was clarified that problems in self regulatory behaviours, social perception and social interaction may exist with learning disabilities but do not by themselves constitute a learning disability. Lets discuss each element.

Heterogeneous Disorders

With regard to the definition of LD, the use of the term heterogeneity is an acknowledgment that learning disabilities are composed of dissimilar conditions that can be manifested in various ways. The fact that learning disabilities can occur in any or all of six areas (listening, speaking, reading, writing, mathematics, and reasoning) indicates that individuals with LD are a diverse group and have a variety of abilities and difficulties. Even people whose learning disabilities are in the same area may exhibit very different behaviours. For example, one student with a reading disability may experience difficulties recognizing unfamiliar words, whereas another may have excellent word recognition skills but is unable to comprehend identified words.

Underachievement

The definition of learning disabilities indicates that individuals with LD are underachievers. Some definitions imply underachievement through statements concerning evidence of uneven development (i.e. a person is more skilled in some areas than in other). Underachievement is verified by documenting intraindividual differences across abilities (e.g., a person is a good reader but does relatively poor in mathematics).

Other definitions suggest that underachievement is present if aptitude-achievement discrepancy exists: The intelligence quotient (IQ) obtained on an intelligence test sets an expectation for achievement, and any achievement test score that falls significantly below the IQ represents underachievement. This means that a student may be intelligent as per the IQ score but his performance doesn't reflect his intelligence.

Central Nervous System Dysfunction

The definition specifies that the cause of a learning disability is a dysfunction in the operation of the CNS. Research has shown an association of LD with traumatic brain injury. The entire LD community probably agrees to this notion. Scanning of the brain has shed light on the involvement of the brain. The scan of a dyslexic brain was compared to that of a non dyslexic and it was seen that different areas of the brain were functional during identical stimulation.

Psychological Processing Disorders

Simply put, individuals with learning disabilities deal with certain kinds of information differently, which is why they have learning disabilities. These psychological process could be attention, memory, thinking, reasoning and so on. Basically anything relating to a mental action.

Life Span

The definition states that LD can occur across the life span (not limited to children). The problems faced by a learning disabled may remain throughout life if remediation is not done

Not the Result of Other Conditions

Although learning disabilities can occur concomitantly with other conditions (e.g., blindness, emotional problems), they cannot, by definition, be caused by such conditions. This is often called the exclusion component (Mercer, 1997).

Of course, people with LD may also have other disabilities (i.e. they may have multiple disabilities). For e.g., a child with hearing impairment can have learning disabilities but the former will be the primary condition and later the secondary condition.

Academic Disorders

Many people struggle to master reading, writing, and mathematics. If the problem is a learning disability, the condition is often identified as dyslexia, Dysgraphia or dyscalculia, respectively. Today these disorders are also known as specific reading disabilities, specific writing disabilities or specific mathematics disabilities.

1.5   UNIT SUMMARY

This unit gives emphasis on basic aspects of learning and learning difficulties. It is essential to develop a clear understanding between learning difficulty and learning disability which can help a teacher design appropriate need based T-L strategies for improving learning of children. This unit was an attempt to motivate you towards developing better understanding for children with learning difficulties.

1.6   GLOSSARY

Neurological	:	The central nervous system which includes the brain and the spinal cord.
Psychological processing	:	Any kind of processing where we use our mental abilities like in memory, attention, language, problem solving etc.
Impairment	:	A disability or abnormality which may be physical, mental, sensory or anatomical in nature.
Epilepsy	:	A nerve related disorder which is characterized by seizures or convulsions, more likely to occur in young children.
Pseudo	:	False, pretending to be something which it is not.
Receptive	:	Capable of receiving something.
Expressive	:	Ability to convey thoughts or feelings
Perceptual	:	Conscious understanding of something which is detected by the senses
ADD/ADHD	:	Neuro or nerve related behavioural disorders which are characterized by inability to pay attention and hyperactivity.
Retention	:	The act or power of remembering things.
Recall	:	To recollect or remember, or bring back from memory
Active Working Memory	:	Enables us to remember information over a brief period of time. It is the part of memory which helps us to pay attention, put together, work upon and recall information.
Long Term Memory	:	It is memory that can last as little as a few days or as long as decades. By rehearsal and associations we can make information from our active memory part of out Long Term Memory.
Heterogeneous	:	Diverse in nature or kind; composed of many parts.

| **Underachiever** | : | Someone who performs below their expected level of ability |
| **Concomitantly** | : | Concomitantly happening at the same time. |

1.7   ANSWERS TO CHECK YOUR PROGRESS

E1. Children who are not making age appropriate progress especially in basic skills like language, literacy, numeracy etc are catagories as children with learning difficulties.

Among the children with learning difficulties a small group of children find learning of basic numeracy and literacy very difficult called learning disability.

E2. The important causes of learning difficulty due to curriculum are;

- Inappropriate content.
- Mode of introduction of concept
- Method of curriculum transaction

1.8   ASSIGNMENTS

Q1.   Try to identify the children you may have in your class/school who are not performing well and the cause of their under performance.

Q2.   Identify a child with learning problems and keep a record of his/her behaviour over 4 weeks. Compare your findings with another teacher trainee.

Q3.   What is Learning Disabilities? Explain the various elements of the definitions by supporting the answer with classroom examples.

1.9   REFERENCES

1. Learning and Learning Difficulties – A Handbook for Teachers by Peter Westwo

UNIT 2 CHARACTERISTICS, CAUS AND TYPES OF LEARNING DISABILITIES

Structure

2.1   INTRODUCTION

Learning disability is a disorder in which a normal healthy child fails to learn up to his or her potential in school. A child may have trouble learning for various reasons. Usually, the child has adequate learning opportunities. Yet, despite the presence of adequate learning environment and absence of any other developmental disabilities, the child fails to learn

according to his abilities. In this unit you will learn about various characteristics of learning disabilities which will help you to screen out and identify children with learning disabilities. The underlying cause of this disability is unknown. It may involve abnormal functioning of the brain and may have a genetic component. Causative factors such as perceptual, neurological, genetic, biological and environmental are discussed in this unit. Different types of learning disabilities and associated disorders are also included here.

2.2   OBJECTIVES

After reading this unit, learners will be able to:

- list down the various characteristics of learning disabilities;
- explain the causative factors of learning disabilities;
- differentiate different types of learning disabilities; and
- name and define the associated disorders commonly found in children with learning disabilities.

2.3   CHARACTERISTICS OF LEARNING DISABILITIES

Children with learning disabilities share certain common characteristics irrespective of the different form of specific learning disabilities. They usually have difficulty from the time they enter a formal school programme. The readiness skills necessary for reading have not been mastered and once he enters first grade, he cannot read, and spelling is equally tough. As the year progresses, the child may develop behaviour and emotional problems. Based on the frequency of occurrence, the following characteristics have been identified as widely prevalent in individuals with learning disability:

1. Disorders of attention

2. All perceptual impairments

3. Haptic perception

4. Motor coordination deficits

5. Disorders of memory and thinking

6. Specific difficulties in the areas of reading, writing, arithmetic and spelling

7. Disorders of language

8. Disorder of listening

9. Social and interpersonal characteristics

1. **Disorders of attention:** Learning disabled individuals are frequently described as having a short attention span, distractible and lacking in concentration, but this does not mean

that all inattentive children are learning disabled. The significant characteristics frequently associated with learning disability are hyperactivity or hyperactivity:

- *Hyperactivity:* The child is constantly engaged in motor activities, restless, tapping of finger/foot, jumping out of seat or skipping from task to task.
- *Hypoactivity:* The opposite of hyperactivity. The child fails to react or seems to do everything in slow motion.

2. **Perceptual impairments:** Since learning disability is associated with poor perceptual ability and exhibit a number of perceptual, motor or perceptual–motor deficits, perceptual impairment are discussed here at some length.

Visual Perceptual Deficits

Visual perception is described as the process by which visual stimuli are made meaningful to the observer. A set of visual perceptual sub skills are briefly described here:

Visual discrimination: Visual discrimination is the ability to see fine discrimination between objects, letters, numbers and so on. Children with learning disabilities are unable to distinguish between letters which look similar such as b and d; p and q. Visual discrimination aids fluency in reading and deficits in this area could aggravate reading difficulties.

Figure-ground discrimination: This is the ability to discriminate foreground against a background which means concentrating on what is relevant and ignoring what is irrelevant. Children with learning disability show difficulty in 'tracking' or skip lines while reading. They may struggle with other tasks such as labelling diagrams, locating places on the map etc.

Spatial relationships: Spatial relationship is the position of objects in space. This is the building block of all learning. Concepts related to directionality (left/right, under/above), are integral to most tasks, for example, copying a pattern, writing words in a sentence, or solving addition and subtraction sums. Children with learning disabilities may experience difficulty in directionality, which could further impact their academic skills.

Visual-motor integration: It is the ability to coordinate the movement and direction of hand, foot or other body parts in response to feedback from visual information. It requires abilities of eye hand coordination, temporal-spatial integration and form perception. Children who are weak in this area may demonstrate difficulty in copying geometric figures, buttoning, lacing, cutting, pasting, writing and copying from blackboard. The shape, size, and position of objects may also confuse them.

Other visual perceptual deficits include *deficits in visual closure* i.e. difficulty in recognizing an object when only a part of the object is seen, *difficulty in visual memory*

i.e. experiencing difficulty remembering images, and difficulty in visual sequencing i.e. experiencing difficulty in remembering the sequence of visual stimuli i.e. spellings in a sequence.

Auditory Perceptual Deficits

Auditory perception is different from physiological hearing or auditory acuity, it is central processing of auditory stimuli by which sensory data received by the ear are organized and interpreted meaningfully. A child with learning disability may have nothing wrong with his hearing but still is unable to interpret what is heard. Following auditory perceptual sub skills are briefly described here:

Auditory discrimination: Auditory discrimination is the ability to hear similarities and differences between two or more sounds. It is fundamental building block for phonetic aspects of reading. Children with learning disabilities may be unable to distinguish sounds.

Auditory building: It is the ability to blend or combine sounds to form words. Auditory blending is specially required for reading. Many dyslexic readers tend to read in a disjointed manner and have difficulty breaking apart and putting together blends (bl, sp, gr) and digraphs (ch, gh, th).

Auditory memory: This is the ability to recall sounds and make sense of what is heard. Some children with a learning disability have a poor memory for sounds and particularly struggle with task where they are expected to recall instructions or other stimuli presented auditorily.

Other auditory perceptual deficits include auditory course deficits, i.e. difficulty in identifying a word when only a part of it is heard, difficulty in auditory sequencing i.e. recalling auditory stimuli in a particular sequence e.g. Spellings in a word, words in a sentence or a set of instructions.

3. **Haptic perception**

It is the process by which information is acquired through the tactile (sense of touch) and kinaesthetic (movement) systems. A child explores the world around him by touching and manipulating objects and observing information pertaining to texture, pain, temperature, pressure, and geometric features. However, some learning disabled children may be unable to derive meaning from touching. For example, the quality of "roundness" in a circle, and concepts related to hard/soft, rough/smooth or hot/warm, may not be acquired easily. They may also have problems with kinaesthesia which includes bodily movements, coordination, body image, directions, and spatial orientation. A child may be

unable to write because he does not know how to move his hand and cannot produce the up/down strokes required for writing.

4. **Motor coordination deficits:** Motor skills include gross motor skills, fine motor skills, balance, laterality, directionality and body image.

   Gross motor skills: They include activities such as walking, jumping, catching and so on. Many learning disabled children show clumsiness and awkward on the playground, unable to perform apparently simple physical exercises such toe touching. They also find it difficult to perform balancing activities on the beam or standing on one leg.

   Fine motor skills: They include activities involving eye and hand movements such as tracing, needle work, bead stringing, lacing, colouring or writing. Learning Disabled children sometimes have deficits in fine motor skills which impact their handwriting and drawing skills.

   Laterality: Laterality is a complete, internalized motor awareness of the two sides of one's body. We can follow directions only when we know that external objects are situated to the right, left, front, back, above, or behind only in relation to our body. Children with deficits in this area may have difficulty in following commands and instructions such as "sit on the chair on the right side", "take one step forward", "underline the word".

5. **Disorders of memory:** Persons with learning disability are generally characterized by inefficient memory systems. They are unable to spontaneously use rehearsal strategies or reorganize information in a meaningful way. The inability to impose structure on information is the key factor in memory deficits. It is difficult to pinpoint exactly where the breakdown is occurring, the following characteristics are often present:

   - *Difficulty recalling visual material (patterns, spellings, word order in a sentence etc)*

   - *Poor performance on task requiring auditory discrimination, or aural discrimination.*

   - *Difficulty using strategies for verbal rehearsal.*

6. **Academic characteristics:** Children with learning disability may have problems in the Specific areas of reading, writing, mathematics, although it is not necessary that a child poor in spellings will also be poor in mathematics. Difficulties related to school work generally appear as early as kindergarten and continue into adolescence and adulthood.

   Disorders of reading (Dyslexia): A dyslexic child reads slowly, often reversing letters, words and 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. The dyslexic readers fail to perceive and analyse distinctive features automatically; cannot tell the

sequential features of a story, which affects the comprehension; and focus less on meaning.

Disorders of writing (Dysgraphia): A child may have difficulty forming the letters and/or the speed of writing may be slow. The overall quality of his handwriting could be extremely untidy, perhaps even illegible. The student may have difficulty copying from the blackboard or from his notebooks. Words are frequently omitted and little attention is paid to punctuations or spelling. The total number of words and length of sentences is reduced. The child has difficulty putting his thoughts down on paper, and demonstrates reluctance to write.

Disorders of mathematical learning (Dyscalculia): Many learning disabled students have problems in the area of numbers. In the primary classes, they may be unable to associate numbers with quantity. They may display a tendency to reverse numbers (write 12 for 21), and confuse before and after. Special orientation and ability to make estimations for space, size, time, shape and weight tends to be poor. Learning disabled students tend to work in a concrete level and are slow to acquire abstract reasoning skills which are very necessary for problem solving in the higher classes.

7. **Disorders of language:** The relationships between spoken language and learning disability are complex. The speech of some learning disabled children tends to be very limited in the structure and content. The child may use a lot of "fillers" such as "uh...uh", "I mean" or may have articulation difficulties. Learning disabled children could make grammatical errors while talking and use words incorrectly. Some struggle to express their thoughts and have difficulty retrieving words during conversation.

8. **Disorder of listening and comprehension:** Listening and comprehension are complex processes that require good attention, discrimination and memory systems. Some learning disabled children may find it difficult to make sense of what is said to them. They may struggle to follow directions, or explain the sequence of events in stories and conversations. Other difficulties may include:

   ▪ An inability to recognize words having multiple meanings or words used in different contexts.

   ▪ Difficulty understanding figurative language, idioms, words with multiple meanings.

   ▪ Difficulty in understanding sarcasm, humour, and play on words.

9. **Social and interpersonal characteristics:** It is commonly thought that children with learning disability have some type of social problems. Many of these children are anxious and withdrawn, have problems in interacting with teachers, parents and others have behaviour problems and are less socially skilled. These children are popular and are not held in low esteem by parents, teachers and peers. Many of these children have little

insight into the nature of their problem; have negative self concept, more external locus of control and as a result attribute mistakes to external factors. They have lower expectations of performance from themselves.

Check Your Progress

Notes : a) Space is given below for your answer.

            b) Compare your answer with the one given at the end of this unit.

E1. Match the followings:

    i) Disorders of attention   (a) difficulty recalling spelling

    ii) Perceptual impairments   (b) gets confused with geometrical
                                              shapes

    iii) Motor coordination deficits (c) has problems in following verbal
                                              instructions without accompanying
                                            gestures

    iv) Disorders of memory   (d) gets easily distracted
          and thinking

    v) Disorders of language   (e) clumsy and illegible handwriting

    vi) Disorder of listening   (f) low self esteem

    vii) Haptic perception   (g) misarticulation

    viii) Social and interpersonal (h) Unable to focus on specific word
           characteristics   or figure on a crowded blackboard
                                            or printed book

E2. Differentiate:

    i) Attention and perception

    ii) Laterality and directionality

    iii) Gross and fine motor skills

    iv) Hyperactivity and hypoactivity

2.4   CAUSATIVE FACTORS OF LEARNING DISABILITIES

In almost every case, how exactly a child comes to have a learning problem is unknown. However, a variety of causes of learning disabilities have been proposed. These etiological factors generally fall into five categories-perceptual, neurological, genetic, biological and environmental factors.

2.4.1 Perceptual

Any deficits in visual, auditory, tactile, kinaesthetic and proprioceptive perception-and combinations of these are found responsible for causing learning disability in children.

Perceptual modality: The term perceptual modality describes these perceptual deficits. Learning strengths and weaknesses of some students are related to preferred and non-preferred modalities. For example, some students may learn best via visual input, whereas others may learn via auditory or tactile input. In addition, specific perceptual modality may represent a weak or inefficient pathway for learning.

Perceptual overloading: Some children find it hard to simultaneously receive and integrate information from several modalities. The student's perceptual system may overload (over stimulate the brain) and he becomes confused. For example, when the student is asked to read a passage while listening to it on a tape recorder (visual and auditory stimuli), he gets confused due to overloading of his perceptual system. Symptoms of overloading in students may be observed as resistance to instruction, attention problems, poor recall, and temper tantrums etc.

Cross-modal perception and inter-sensory integration: Cross-modal perception involves the combination of successive perceptions from different modalities, thus involving memory and problem solving. In some type of learning, the student must be able to cross from one perceptual system to another. For example, in reading, the student must integrate and associate visual images of what the letters look like with their sound (auditory equivalents). Inter-sensory integration refers to the combination of sensations received simultaneously by the individual. Some perceptual problems result from the student's inability to integrate inter-sensory processes (e.g. transfer an auditory input into a visual input).

Whole-Part perception: Some students have perceptual styles regarding the perception of the parts and whole of the stimulus. Whole perceivers note the object in it's entirely, whereas part perceivers focus on details of the object. The ability to perceive parts and wholes is essential in academic learning. For example, in reading, the student may need to shift back and forth from part to whole perception, depending on the words being read. By seeing the parts of a word, the whole word is recognized by parts perceivers, whereas whole perceivers may tend to ignore detail in such words as money and merry, or horse and house, and not discriminate correctly. Disability in this area is likely to be related to figure-ground confusion.

2.4.2 Neurological

Neurological damage is considered as one of the factors causing learning disability, which may occur due to brain injury, infections or any complexity during prenatal, natal and postnatal periods. However, it is very difficult to establish the extent and nature of neurological damage but it is *Minimal brain dysfunction.* Electroencephalogram (EEG) reports of some children with learning disability show some evidence of brain damage such as asymmetry, slow reactivity, and "sharp waves" in the parietal region. Generally brain

damage is influenced by laterality, site, size and causal agent of the lesion as well as individual's age at the time of the lesion. *Maturational delay* and *neurological immaturity* are also found in children with learning disability which are reflected in symptoms like slow maturation of language skills, delayedness in motor skills, visual-motor problems, incomplete or mixed dominance, right left confusion, uneven performances in intellectual measures etc. Lags in neurological development such as the process of myelinisation (myelin sheath covers the neurons/brain and acts as a source of protection as well as vehicle for electrochemical communication) takes longer duration in children with learning disability and one of the last areas to myelinate is the angular gyrus, an important site that is involved with reading.

2.4.3   Genetic

Genetic studies of learning disabilities have taken quite varied approaches, but most suggest genetic or hereditary causes for some cases of learning disabilities. The exact nature of the relationship between genetics and learning disability remains obscure but evidence does suggest that members within a family have a tendency toward learning disability. Evidences of learning disabilities have been seen more in identical (monozygotic) twins than fraternal (dizygotic) twins. There is also an increased incidence of learning disabilities in children having sex chromosomal disorders. It should be noted here that having a genetic risk does not imply that a learning disability is inevitable because environment mediates all genetic effects.

2.4.4   Biological

Biological factors play an important role in brain activity, controlling and releasing electrical nerve impulses between neurons. *Nutritional deprivation* may lead to poor biochemical function in the brain. A poor diet and severe malnutrition can reduce a child's ability to learn by damaging inter-sensory abilities and delaying development. Absence or excessive amounts of *biochemical substances* cause a biological imbalance. *Metabolic disorders* of biogenic amines such as serotonin and dopamine (neuro-transmitters) have some relationship with learning disability. Some researchers have indicated that certain *food additives* like artificial colourings and flavourings in many of the foods children eat can cause learning disabilities and hyperactivities. Hypoglycaemia (low blood sugar), nutritional deficits, food allergies to sugar, eggs, wheat and chocolate are also said to be potential causes of learning problems.

2.4.5   Environmental

Any factor that can cause neurological problems can also cause learning disabilities such as accidents, or any type of trauma to the brain, nutritional deficits, emotional instability, or consuming certain substances like lead paint, mercury, which can cause brain damage.

2.5   TYPES OF LEARNING DISABILITIES

2.5.1   Dyslexia

Dyslexia is a specific learning disability that is characterized by difficulties with accurate and/or fluent word recognition and by poor spelling and decoding abilities. These difficulties typically result from a deficit in the phonological component of language that is often not at par with the other cognitive abilities and the provision of effective classroom instruction. Secondary consequences may include problems in reading comprehension and reduced reading experience that can impede growth of vocabulary and background knowledge.

Characteristics and pattern of errors in dyslexic: Dyslexic children demonstrate some very specific characteristics and error patterns that may continue into adulthood:

Characteristics/errors	Descriptions
Reading habits	
Tension movements	Frowning, fidgeting, using a high pitched voice and lip biting
Insecurity	Refusing to read, crying, and attempting to distract the teacher
Loses places	Losing place frequently (often associated with repetitions)
Lateral head movements	Jerking head
Holds materials close	Deviating extremely (15-18 inches)
Word recognition errors	
Omissions	Omitting a word (tom saw a cat)
Insertions	Inserting words (the dog ran [fast]after the cat)
Substitutions	Substituting one word for another (the house horse was big)
Reversals	Reversing letters in a word (no for on ,was for saw)
Repetitions or regressions	Very slow, erratic rate of reading because of repetitions of words or regressions
Mispronunciations	Mispronouncing words (mister for miser)
Transpositions	Reading words in the wrong order(she away ran for she ran away)
Unknown words	Hesitating for 5seconds at a word he cannot pronounce
Slow choppy reading	Not recognizing the words quickly enough (20-30 words per minute)

Comprehension errors	
Cannot recall basic facts	Unable to answer specific questions about a passage(what was the dog's name)
Cannot recall sequence	Unable to tell sequence of story read
Cannot recall main theme	Unable to recall the main topic of the story
Miscellaneous symptoms	
Word-by word reading	Reading in a choppy, halting, and laborious manner (no attempts are made to group words into thought units)
Sound blending	Isolate sounds, difficult to combine sounds into words
Memory skills	Difficulty in remembering words, or letter sounds
Strained high pitched voice	Reading in a pitch higher than conversational tone
Inadequate phrasing	Inappropriately grouping words (the dog ran into[pause]the woods)

2.5.2   Dysgraphia

Disorders of written language are referred to as dysgraphia and these include difficulties in three areas: *(1) handwriting (2) spelling and (3) content*. Poor handwriting, inconsistent spellings and irregular letter formation are the major complaints teachers make about almost every school going child. Therefore careful examination and determination of the pattern and severity of the problem is important to identify dysgraphia in a child.

1. *Disorders of handwriting:* Most learning disabled children hate to write and avoid it wherever possible. Some common types of handwriting errors are listed below:

Defect	Physical aspects	Reasons for poor handwriting
Too much slant	Writing arm too near body Thumb too stiff	• Absence of prewriting skills and pre-requisite skills for fine motor control are poorly developed.

	Point of nib too far from fingers	• Poor motor control (poor pincer grasp, usually seen in the clumsy children)
	Paper in wrong direction	• Spacing (spatial knowledge is poor e.g. w_ales for wales)
	Stroke in wrong direction.	• Poor directionality e.g. 'a' is written anticlockwise, child writes 3 in clockwise.
Writing too straight	Arm too far from body	
	Fingers too near nib	• Poor visual memory and poor visual translation.
	Index finger along guiding pen	• Psychological problem (tension may lead to anger, clowning etc. in children with disability yawning is a sign of frustration, mental fatigue, fear of ridicule or anger)
	Incorrect position of paper	
Writing too heavy	Pressing index finger too heavily	• Speed (the teachers need to know how long and how much a child can write at a particular age. When the speed is affected the size of letter is also affected.)
	Using wrong type of pen	
	Penholder too small in diameter.	• Physical factors (neurological status, visual, auditory status).
Writing too light	Pen held too obliquely or too straight	• Attention span is poor.
		• Malformed letters - directional confusion, inability to begin, continue and complete a letter in a conventional manner.
	Eyelet of pen turned to side	
	Penholder too large in diameter.	• Hesitations- fluency is lost as the pens stop and start.
Writing too angular	Thumb too stiff	• Age of the child which may not match with the type of work expected from him.
	Penholder too lightly held	
	Movement too slow	• Sizes of the letters are different i.e. lack of uniformity.
Writing too irregular	Movement lacks freedom	• Makes alterations .i.e. Messy.
	Movement of hand	

	too slow	
	Pen gripping	
	Incorrect or uncomfortable position	
Spacing too wide	Pen progresses too fast to right	
	Excessive, sweeping lateral movement	

2. *Disorders of spelling:* A spelling disability tends to coexist with a reading disability and with a handwriting disability. Spelling is the complex, language-based skills. Spelling is not a visual spatial skill but is based on several linguistic components such as phonology (awareness of sounds), orthography (written language), semantics (meaning) and morphology (awareness of meaningful syllables).

3. *Written expression:*

   - The content of written language is an important aspect of communication. Learning disabled children often produce compositions that are immature, and poorly organized even though they may have bright ideas and a vivid imagination.

   - Writing demands skills of planning, organizing, generating, and revising. They struggle with planning, organizing, and revising their writing. Their use of language is problematic in terms of syntax, vocabulary, and they make frequent errors in spelling and writing mechanics.

   - They have difficulty making transition from one step in writing to the next. They often appear to have difficulty allocating sufficient cognitive resources to meet various writing demands (i.e. knowing where to begin, how to stay on task and develop a topic etc.). As a result they are ineffective and inefficient writers.

   - Students with learning disability may have slow processing speed, which affects their performance on verbal memory tasks. They are often at loss for words. This occurs partly because they lack sufficient knowledge of academic content, and partly because they struggle to retain the vocabulary found in content subjects.

2.5.3 Dyscalculia

Dyscalculia is defined as a structural disorder of mathematics which has its origin as a constitutional disorder without simultaneous disorder of general mental functioning. A student could be low functioning in mathematics yet have above average intelligence.

Dyscalculia can be grouped into following categories:

- *Verbal dyscalculia:* difficulty with verbal use of mathematical terms and symbols.

- *Practognistic dyscalculia*: inability to recognise distinguishing features or to make comparisons of objects that vary on some dimension e.g. size.

- *Lexical dyscalculia*: difficulty in reading digits, symbols, or multi-digit numbers.

- *Graphical dyscalculia*: difficulty in writing dictated numbers or copying symbols.
- *Ideognostical dyscalculia:* difficulty in comprehending ideas and making mental calculations.

- *Operational dyscalculia:* difficulty in completing basic operation of addition, subtraction and so on, including confusion among the operation and the appropriate algorithm for each.

Many of the characteristics attributed to learning disabled students are related to dysgraphia such as problems of perception, memory, language, reasoning, motor functioning and reading etc.

Characteristics of Learning Disability		Mathematical behaviours
Perceptual	Figure-ground	Frequently loses place on work sheet May not finish on a page Reading multi-digit number
	Discrimination	Differentiating between numbers (e.g. 6-9, 2-5, or 17-71), coins, the operational symbols, clock hands.
	Spatial	Copying shape or problems Writing across paper in a straight line Before-after concepts, thus may have trouble with time or counting directional aspects of arithmetic, which may be noted in problems with computations involving

		up-down (ex-additions) left-right (regrouping), and aligning numbers in multiplications and division
		Putting decimals in right place
		Spacing manipulative into patterns or sets, e.g.
		Using number line, e.g.
		Understanding positive and negative numbers (directional) e.g.
Memory	Short-term	Retaining math facts
		Remembering all the steps in an algorithm, e.g.,
		Retaining the meaning of symbols
	Long-term	Difficulty in mastering facts over time
		Initial difficulty with review sessions or mixed probes, e.g.,
		Forgets steps in algorithms
	Sequential	Counting rationally
		Completing all steps in a multistep computation problem
		Solving multistep word problems
Language	Receptive	Relating arithmetic terms to meaning (e.g.- minus, addend, dividend, regroup, multiplicand, place value)
		Words that have multiple meanings (e.g.- carry, times)
	Expressive	The vocabulary of arithmetic
		Oral drills in arithmetic
		Verbalizing steps in solving a word problem or an algorithm
Behavioural patterns	Impulsive	Makes careless mistakes in computations
		Responds incorrectly and rapidly in oral drills

		May often correct response when asked to look at or listen to a problem again
		Attending to details in solving problems
	Short attention	Completing work in assigned time
		Multistep computation
		May start a problem and not finish it, but go to the next problem
		May frequently be off-task
	Perseveration	Switching from on operation to another (e.g. addition to subtraction)
		May work very slowly and go over work several times
Auditory		Oral drills
		Oral word problems
		Counting on from within a sequence. e.g.
		Writing numbers or assignments from dictation
		Hearing number patterns
Reading		Understanding the vocabulary of math
		Word problems
Reasoning		Word problems
		Comparisons of size, quantity
		Symbols in math (ex- .>,<, x, =)
		The abstract level of mathematical concepts and operations
Motor		Writing numbers legibly, with speed and accuracy
		Writing numbers in small spaces (i.e. writes large)

2.5.4   Dyspraxia

Praxis, or motor planning, is a unique human function that relies on an understanding of one's own body and how it operates within and relates to the external world. This type of

understanding is based on appropriate and adequate input and processing through the channels of the tactile, proprioceptive, and vestibular systems. Dyspraxia refers to dysfunction in ability to plan and to execute movement patterns of a skilled or non-habitual nature. Postural reactions which are automatic and reflexive; certain movement patterns such as creeping and walking, which are an inherent part of human development; and performance of skilled tasks, if slightly altered, present great problem to the dyspraxic child. Because dyspraxic child experiences a decreased capacity to impact on the environment, he may feel overwhelmed and powerless, failing to recognize himself as an animated being, feel inadequate, avoid competitive activities, lack imagination. The following are the characteristics of dyspraxia:

1. Difficulty in performing skills not previously mastered, where motor planning is required.

2. Sensory processing deficits, often in the tactile system, and occasionally in the vestibular and proprioceptive systems.

3. Low muscles tone, generally poorer in flexor than extensors. Flexors muscles are used primarily for phasic and skilled movements, while extensors serve tonic and postural functions.

4. Generally poor coordination, accident proneness, and disorganized movement. The child exhibits excessive concentration when approaching a new skill. Inefficiency and awkwardness of movement is usually noted.

5. Emotional instability, easily frustrated; appears to have an unwillingness to change.

6. Generally normal onset of developmental milestones but delay in acquisition of skills such as dressing and appropriate manipulation of toys (blocks, puzzles etc.). Deficient skills are noted overall, with the child relying on a few learned skills that have been acquired through considerable effort and practice.

2.5.5   Non Verbal Learning Disability (NVLD)

Non Verbal Learning Disability, the term is actually quite misleading. Students with NVLD are highly verbal, with their areas of deficits being in the nonverbal domains. *NVLD is a neurological developmental disability with probable dysfunction of the right hemisphere of the brain, characterized by significant discrepancy between high verbal and lower performance scores on intelligence tests with deficits in motor, visual-spatial, and social skills.* NVLD encompasses combination of learning, academic, social and emotional problems. They possess specific assets in early speech and vocabulary development, remarkable rote memory, early reading skills development and excellent spelling skills, good verbal ability to express and have strong auditory retention. Four major categories of deficits and dysfunctions are present in these children:

1. *Motor:* Lack of coordination, severe balance problems, and difficulties with grapho-motor skills.

2. *Visual-spatial-organizational:* Lack of image, poor visual recall, faulty spatial perceptions, difficulties with executive functions and problems in spatial relations.

3. *Social:* Lack of ability to comprehend nonverbal communication, difficulties adjusting to transitions and novel situations, and deficits in social judgement and social interaction.

4. *Sensory:* Sensitivity in any of the sensory modes-visual, auditory, tactile, gustatory or olfactory.

Characteristics of NVLD:

- Language abilities are unique in children with NVLD. Some may show an initial delay in early expressive speech but rapidly show gains, progressing to become very talkative or even excessively verbal (verbosity).

- Children with NVLD often do quite well with word recognition, oral reading and spelling. While they might be slower in learning to recognize letters, they show good phonetic skills (word pronunciation).

- Reading comprehension is weak, especially for more abstract or novel subject matter. They may be able to read a paragraph quite fluently, but may be unable to extract the main point or answer conceptual questions.

- They have difficulty with mechanical arithmetic, particularly more complex math involving many columns such as long division.
- They have difficulty in word problems, math reasoning, reading a math problem and knowing the operation to solve. Higher math skills, spatial and conceptual relations are difficult for them such as in geometry or algebra.

- They have good rote verbal ability and verbal memory skills but show poor language pragmatics or the functional use of language.

- Nonverbal tasks involving fine motor coordination may be quite difficult for them.

- Tasks that require interpreting or pulling together visual information can be hard to perform. Children struggle to answer questions at the end of a chapter or performing tests where the questions are worded differently from study material.

- Humour or sarcasm can be hard for children with the NVLD to appreciate. They often cannot understand jokes, or they interpret them in such a concrete way that humour is lost.

- They rely on rote or practiced social behaviours that may not be appropriate for the context.

Check Your Progress

Notes : a) Space is given below for your answer.

b) Compare your answer with the one given at the end of this unit.

E5. Tick True / False:

i) Children with Dyslexia and NVLD are non vocal.   T/F

ii) Omissions, insertions, substitutions and reversals are seen in reading, writing and mathematical difficulties.   T/F

iii) A spelling disability tends to coexist with a reading disability and with a handwriting disability.   T/F

iv) Disorders of handwriting and dyspraxia are unrelated.   T/F

E6. Fill in the blanks:

i) Dyslexia   is   reading   disability   and   dyspraxia is...

ii) Difficulty in writing includes difficulties in …………….. and ……………….

iii) In pincer grasp, thumb and index fingers are involved, but .... finger is also included in tripod grasp.

iv) Difficulty in comprehending ideas and making mental calculations is termed as ……………….. dyscalculia.

2.6   ASSOCIATED DISORDERS

2.6.1   Attention Deficits Hyperactivity Disorders (ADHD)

Learning disability may coexist with Attention Deficits Hyperactivity Disorders, which is a neurological developmental disorder, defined as a persistent pattern of inattention or hyperactivity-impulsivity that is more frequently displayed and more severe than typically observed in individuals at a complete level of development. They are overactive, restless, impulsive, inattentive, distractible, easily frustrated, aggressive and unpredictable. ADHD may affect certain area of the brain that allow problem solving, planning ahead, understanding other's actions, and impulse control. Many people exhibit similar behaviours but not at the extent that such behaviours significantly interfere with their work, relationships or studies. The core impairments are consistent even in different cultural contexts.

2.6.2   Scotopic Sensitivity Syndrome (SSS)

It is a neurological condition which affects vision making reading and writing difficult. It is also known as visual stress syndrome and commonly referred as perceptual dyslexia. This is a perception problem and not a vision problem. The eyes distort what they see. So the message to the brain gets scrambled. It is caused as a result of inappropriate brain-eye coordination. Children with SSS have hypersensitive photoreceptors. The inappropriate biochemical processes affect the visual pathways and deep structure of the brain causing physiological and/or several visual perceptual problems together known as *Scotopic Sensitivity Syndrome*. The main symptoms are excessive eye strain, fatigue, headaches and migraine, disability to read because letters appearing to be moving, light sensitivity, poor depth perception, poor judgement of distance, limited clarity in vision, contrast problem, difficulty in concentration on studies and other work. Children with SSS cannot read because the words appear to be moving, blurring, washing out, melting and flipping to them. They don't see clearly and think everyone is seeing what they are seeing. They may see the tree across the street perfectly but not the text book in front of them. Unfortunately, standard sight tests do not detect this condition.

2.7   UNIT SUMMARY

Characteristics of students with learning disabilities include various disorders of attention, perception, motor coordination, memory, difficulties in the academic areas, language, listening, and social and interpersonal characteristics. There is not a single or a primary cause for learning disabilities. It may involve perceptual labiality or abnormal functioning in the parietal lobe of the brain, genetic and/or environmental endowment, and biological-biochemical factors. The major types of learning disabilities include dyslexia, dysgraphia, dyscalculia, dyspraxia and non verbal learning disability. The most occurring associated disorders are attention deficits hyperactivity disorders and scotopic sensitivity syndrome.

2.8   GLOSSARY

Algorithms	:	Algorithms are step by step procedures for solving computational problems.
Attention	:	Attention is the ability to concentrate on a task for required time.
Dizygotic	:	Dizygotic refers to fraternal twin from different zygots.
Dyscalculia	:	Dyscalculia refers to difficulty in mathematics.
Dysgraphia	:	Dysgraphia refers to difficulty in writing.
Dyslexia	:	Dyslexia refers to difficulty in reading.
Dyspraxia	:	Dyspraxia refers to dysfunction in ability to plan and to execute movement patterns.
Haptic perception	:	This is the process of acquiring information through sense of touch and movement.
Hyperactivity	:	Hyperactivity refers to over activity in a person.
Hypoglycaemia	:	Hypglycaemia refers to low level of sugar in blood.
Hypoactivity	:	Hypoactivity refers to low level of activity in a person.
Monozygotic	:	Monozygotic refers to identical twins from the same zygots.
Neuro-transmitters	:	Neuro-transmitters help in transmitting messages in the brain through chemical reactions.
Perception	:	Perception is a process of interpreting the information.
Scotopic sensitivity	:	Scotopic sensitivity is a neurological condition affecting visual perception.

2.9   ANSWERS TO CHECK YOUR PROGRESS

E1.   i) (d),   ii) (h),   iii) (e),   iv) (a),

         v) (g),   vi) (c),   vii) (b),   viii) (f)

E3.   i) (d),   ii) (e),   iii) (b),   iv) (f),

         v) (a),   vi) (c)

E4.   i) Biological   ii) Genetics   iii) Environmental

       iv) Perceptual   v) Neurological

E5.   i) (F),   ii) (T),   iii) (T),   iv) (F)

E6.   i)   Difficulty in motor planning
       ii) Handwriting, spelling and content
       iii) Middle
       iv) Ideognostical

2.10 ASSIGNMENTS

Q1.   List down the common characteristics of children with learning disability and identify such children in your classrooms having these characteristics.

Q2.   Discuss following causative factors of learning disability

       (a) perceptual and neurological; (b) genetics and environment

Q3.   What are the different types of learning disability? Collect the work samples of children having dyslexia, dysgraphia and dyscalculia.

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UNIT 3 IDENTIFICATION OF VARIOUS TYPES OF LEARNING DISABILITIES

Structure

3.1   INTRODUCTION

With the growing awareness of children with learning disability the primary task confronting a teacher is successfully identifying, assessing and giving remedial measures to the children in accordance to their specific problem. As the trend is towards inclusion of children with special needs, it is ideal to equip the classroom teachers to identify the children with specific learning disabilities at an early stage itself.

Learning disabled children generally have normal or above average intellectual ability. They reach most of the developmental milestones at the appropriate age level or even sometimes earlier. Usually they are not easily differentiated from normal population. They may go undetected till they experience continuous failures in academic skills.

The school teachers are the targets for preparation when it comes to early identification and suitable education of children with disabilities. The teachers by virtue of periodic evaluation have the progress reports of the child which helps in short listing children with learning disabilities. This unit is directed towards identifying the various types of learning disabled in detail.

3.2 OBJECTIVES

After reading this unit, you should be able to:

- identify learning disabled child in your classroom;
- differentiate between learning disabled from mentally retarded, slow learners, ADHD and Under achievers;
- understand multilingualism in the context of learning disabilities;
- identify tools for identification of learning disabled; and
- understand issue of over identification.

3.3 DIFFERENTIATING LEARNING DISABILITIES FROM OTHER

A large number of children with mild mental retardation, borderline intelligence and specific learning disabilities may have their difficulty that is invisible. Some children cannot learn efficiently due to specific breakdown in the learning process, involving listening, thinking, perceiving, memory and expression. Such difficulties are called specific learning disabilities. Yet another group of children have difficulty in learning as they have below average intelligence. Therefore, their capacity to learn is limited. There are children having borderline intelligence and are called slow learners. Many may also have mild mental retardation. So there is a need to distinguish learning disabled from mentally retarded, slow learners, underachievers, and ADHD to provide remedial measures according to their specific problem. An effort has been made here to differentiate learning disability from mental retardation, slow learners, underachievers and ADHD.

3.3.1 Mental Retardation

The term 'Learning Disability' indicates limited ability in learning. When a person is having inadequacy or limited ability in learning a wide variety of tasks involving different levels of intellectual functioning, he can be considered to have general mental retardation. On the other hand if the limitation is restricted to certain areas of learning, especially language and number related areas, he can be considered to have learning disability. In order to differentiate the two kinds of limitations, the term 'General Learning Disability' is suggested as an equivalent for mental retardation and the term "Specific Learning Disability" for disabilities observed only in certain areas of learning. The specific learning disabilities are usually indicated as reading, writing, arithmetic disability etc.

3.3.2 Slow Learners

The terms 'learning problem', 'learning difficulties', 'learning disabilities', 'underachievement', 'slow learners', 'scholastically backward' and such other phrases are used in the educational circle to refer to children who do not pass one or more subjects consistently when given a test in class. When compared to their class norms they lag behind academically causing concern to their parents and teachers. The terminologies mentioned above differ in their meaning, depending on the usage. 'Learning disabilities' is predominantly an American usage to include children who fail in academics despite having normal sensory, motor, intellectual abilities and environmental factors. 'Learning difficulties' is a British usage. They use the term 'severe learning difficulties' to children who have academic backwardness.

3.3.3 ADHD

It is observed that many children with learning problem tend to be hyperactive. Usually teachers or parents complain that the child 'does not complete any activity', shifts from one activity to another'; knowing it is wrong, they still perform certain activities, 'do not listen to instructions in class' or are 'always on the move'. Naturally such behaviours will interfere in learning leading to poor academic performance. If the hyperactive child is made to attend to the activity and receive the information, he can learn successfully.

Attention disorders, such as Attention Deficit Hyperactivity Disorder (ADHD) and learning disabilities often occur at the same time, but the two disorders are not the same? These are two separate and very different problems. Students with ADHD might show hyperactive/fidgety behaviors, inattention/ distractibility problems, and/or are impulsive. These behaviors, present for years, can be seen at school, at home, and with peers. Students with LD have a neurologically-based processing problem that interferes with the ability to master specific learning skills. Between 30 and 50 percent of children with LD will also have ADHD? The reverse is also true; between 30 and 50 percent of children with ADHD will also have LD. So, it is wise to look for both possibilities.

3.3.4 Under Achievers

Learning problem, underachievement, scholastic backwardness and academic backwardness' are broad terms to mean a child who does not perform in academics and is lower than his class level. Very few people work to capacity but some children with considerable academic ability fail in subjects in which they should succeed. This is only partly understood and should certainly be a matter of great concern for parents and the education system.
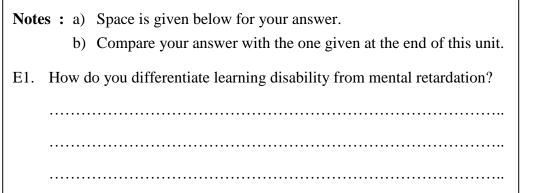
3.4   IMPLICATIONS OF MULTILINGUALISM IN THE CONTEXT OF LEARNING DISABILITIES

India is a country of many languages and on an average most of us are exposed at least 2-3 languages. It is also our educational policy that a child learns at least three languages at school, with some recent exceptions being given to the children with Learning Disabilities. Nevertheless the issue of what is best for a child with a learning disability remains. Theoretically speaking, for the child with a learning disability exposure to a single language may be ideal. However, the practice of it on ground in India is highly impossible. Therefore, judicious decision is keeping in mind the realities of the Child's environment, the nature of his difficulty, the nature of the languages that he is exposed to and required to learn and how all of these interact. This is no simple issue, but until such time that we have clear answers grounded in scientific research carried out in our context, there will be no clear guidelines for best practices.

Aphasia is the Greek term for "speechlessness". It is also known as aphemia or loss of ability to produce or apprehend the nuances of language. This deficiency is not a condition that is triggered by deficits in the sensory, intellect, psychiatric functions or due to muscle weakness. It is also not a cognitive disorder. This condition occurs due to injury to parts of the brain that controls language functions (left hemisphere), known as Broca's area or Wernicke's area. Patients with aphasia may be able to sing and not speak or speak but not write or vice versa. They may display other kinds of defects in language comprehension and production as the children move to higher grades, the language of the classroom becomes quite distinct from that used in everyday life. Students require additional support to learn to use language of the classroom with explicit language support and communication skill planning from a teacher who is understanding, enthusiastic and can effectively motivate and meet the needs of the children. At times it could be difficult for the teacher to tell whether a given child has learning disability or whether his difficulties are because of the bilingual background. A simple guideline is that the child with a disability or a communication disorder will exhibit the symptoms in both languages-the mother tongue and the medium of instruction.

There is also great need for assessment tools and intervention programmes to be made available in the vernacular. For the child with a learning disability it is crucial that decisions such as the choice of medium of instruction are made on the basis of a thorough evaluation of his strengths and weaknesses and an estimation of which language and script is likely to be the most facilitative for the child.

Check Your Progress

Notes : a) Space is given below for your answer.

   b) Compare your answer with the one given at the end of this unit.

E1. How do you differentiate learning disability from mental retardation?

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E2. How do you differentiate learning disability from ADHD?

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3.5 TOOLS FOR IDENTIFICATION OF CHILDREN WITH LEARNING DISABILITIES

A child with learning disabilities usually gets identified only after he is admitted to school. As his general performance in non-academic areas seems normal he does not get identified in preschool years. Nevertheless, alert observation of the child's age appropriateness for listening, speaking, and coordination of motor movements, attention and concentration on specific activities help in identifying or suspecting problems in pre school children. As noted by Smith (1994) intelligence tests do not prove to be useful for these children as the IQ estimates are highly unreliable estimates of potentials. These scores can vary greatly as the child grows, since preschool development has rapid spurts. However, existing screening measures help in identifying children who have uneven developmental patterns and are at risk for academic learning.

A child who has normal sensory, motor abilities and has adequate intellectual abilities and socio-cultural environment and yet shows a discrepancy between the actual and expected achievement in one or more of the academic areas can be suspected as having learning problems by the teacher. But discrepancy alone is not sufficient. To confirm the child's problem, various techniques can be used such as -

3.5.1 Observation

Some times you can observe a lot just by watching. Observation of the student is a required part of the assessment of learning disabilities, and the information it produces can make a valuable contribution. The skilful observer can often detect important characteristics and behaviours of the child in the classroom setting. Observation of student often corroborates findings of other assessment measures. For example, a skilful observer can note whether the child is attending to the lesson or is engaged in other activities. Observation is also useful for shedding light on a student's general personal adjustment. How does the student react to situations and people? What is the attitude of the student toward learning problem? Is the student's attitude one of interest or seeming indifference? These observations will give the teacher valuable information about each student.

Observations of everyday classroom behaviour provide much authentic information. For example, while reading how does the student react to an unknown word? Does he or she stop and look to the teacher for help? These symptoms help teachers to identify children with learning disabilities in the classroom. In identification of a child with learning problems, there is no substitute to alert observation resulting in an accurate clinical judgment.

3.5.2 Check List

Screening is done to shortlist persons with suspected problem. Usually, screening checklists list common symptoms found in children having learning problems in the areas involving visual perception, attention, memory, behaviour, motor aspects, reading, writing and arithmetic. The identification process should be initiated as soon as the teacher suspects that a child may be experiencing learning behavior problem. The teacher can gather information through observation of student's performance, informal testing and formal testing. The teacher has to observe the student's performance in various types of learning situations and gather work samples without bringing it to the notice of the child. The teacher's observation can be made more systematic and reliable by using behavioural checklists which may cover most of the important symptoms frequently seen among children with learning problems. The checklists are developed after compiling the difficulties noticed in children referred with learning problems. Steps involved in using behavioural checklist.

- Find out the difficulties the child experiences.
- Collect enough data to verify this.
- Cross check observations with other teachers and parents.
- Note down the frequency of such difficulties.
- Ensure that these difficulties are not due to other defects like sensory impairments, mental retardation etc.

The teacher's observation of students can also be recorded on a behaviour rating scale. These scales record the teacher's impression on student in a measurable fashion. For example, the teacher is asked to judge the students' ability to follow teacher's directions on a five point scale. A rating of 1 indicates unable to follow directions, while a rating at level 5 indicates that the student is skillful at following directions.

3.5.3 Functional Assessment

The teacher should have an idea of the functional level of the child. Functional level simply means the level at which the child is learning. This ability of the learning disabled can be done by evaluating level of the learning disabled child. The teacher can use various standardized tests and other techniques of evaluation.

Following tests are useful in identification and assessment of the child:
1. Behaviour Rating Scale.

2. Peabody Picture Vocabulary Test (PPVT).

3. The Bender Gestalt Test.

4. The Specific Language Disability Tests.

5. Specific Diagnostic tests in Reading, Writing, Spelling and Arithmetic

There have been few tests in India. BM Institute has reported unpublished tests in related areas including Copying designs test of children, Reading tests for children (Gujarati) and Arithmetic test for children. Organizations working with learning disabled in India including Madras Dyslexia Association have also developed a few tests. However, these tests are standardized on small samples and are not published for use by all. Though western tests are many, they are not suitable for Indian conditions as the grade equivalents vary widely and the tests are culturally inappropriate to Indian conditions.

Centre of Special Education, SNDT Women's University has developed (Diagnostic Test for Identification of Learning Disabled, Behavioural Check List, Test of Thinking Strategies and tests to detect learning disability in three languages). Arithmetic diagnostic test for primary children (Rama, 1994) is specifically for assessing arithmetic ability. Reading test in Kannada by the same author is in use in Kannada. Grade level assessment device for children with learning problems in schools (Jayanti Narayan, 1997) is useful in identifying children at primary level. NIMHANS, Bangalore has also developed tests for psychological assessment of children in the clinical setting which are widely used for identification of behavioral/emotional problems and learning disabilities.

The teacher ratings of the child's academic abilities are the most proficient predictors than the standard tests, as the teacher has an opportunity to observe the child over a period of time on his processing ability of a given problem, unlike the test results that give information on only one time observation. Harn and Packard (1985) reported after analyzing various studies that, the teacher ratings of attention, distractibility and internalizing behaviours proved to be among the best predictors.

Check Your Progress

Notes : a) Space is given below for your answer.

b) Compare your answer with the one given at the end of this unit.

E3. How do you identify children with learning disability in your classroom?

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3.6 THE EDUCATIONAL ASSESSMENT PROCESS

- Check the child's hearing, vision, motor abilities and refer for assistance if needed. Medical reports will help to find out the probable causes of the learning problems which in turn help in providing remedial measures.

- Gather data on emotional, cultural, environmental aspects. Parental reports play a major role in identifying the children with learning problems, since the parental reports provide important information regarding birth history, physical and developmental data, developmental history, social and personal factors and educational factors.

- **Assess behaviour:** Some of the associated characteristics of Learning Disabled children are one or more of the following: hyperactivity, perceptual-motor impairment, attention disorders, impulsivity, disorders of memory, problems in orientation to time and place, and disorders in speech in addition to poor performance in scholastic areas.

- **Assessment of current level of achievement:** As per the age and exposure to school, the child may be attending a particular class while his achievement level in one or more subjects may be below the expected level of that case. Hence, the teacher should assess his achievement in reading, reading comprehension, writing, spelling, arithmetic computation and arithmetic reasoning. Comparing them with the expected level of achievement will provide the extent of discrepancy in the child's achievement. This information is important for the teacher as it provides the platform for further planning of educational intervention.

As pointed out rightly by Wallace and McLoughlin (1975) the trend in assessment is to be more preventive than totally remedial, more predictive than demonstrated and more developmental than crisis. Therefore, early identification, diagnosis and educational intervention are very crucial for children with learning problems.

3.7 ISSUE OF OVER IDENTIFICATION

Most authorities have expressed alarm at the rapid growth of students being identified as

having learning disabilities. Critics of the field have used this expansion as evidence that this is an ill-defined category consisting of many students who need nothing more than better instruction from general education teachers. Defenders of the field are also concerned that much of this growth is unwarranted and indicative of confusion over definition and diagnostic criteria. They fear many children are being misdiagnosed and that the increase has provided ammunition for critics, there by jeopardizing services for students who truly have learning disabilities.

Some have noted that increase in the number of students identified as learning disabled has occurred in direct proportion to the decrease in number of students identified as mentally retarded. They have identified that greater reluctance of parents to identify children as mentally retarded resulted in over identification of children as learning disabled. Another reason for increase in prevalence of learning disabled may be because is relatively new. It may take few years to decide how to identify children in this category.

Teachers in countries like India where LD is not widely understood have the onus of explaining the nature of the problem to the parents and helping them to, both, understand and accept it. Given the complexities of the situation, the only children with LD in India who have managed are those, whose parents are sensitive to the needs of their child and managed to provide extensive and at times alternate support during their school years. A few changes that have come about in terms of educational and legal provisions have also been the result of parental activism. Parental understanding and support will continue to be the most crucial factor in the successful education of children with LD. Nevertheless, with greater sensitivity on the part of the teacher and the society at large, the parental burdens can be ameliorated at least to some extent.

The conclusion is to acknowledge the complexity of LD and move towards more comprehensive diagnostic procedures that incorporate the complexity. The goal should be a complete description of LD.

Check Your Progress

Notes : a) Space is given below for your answer.

     b) Compare your answer with the one given at the end of this unit.

E5. Discuss the educational assessment process to identify children with learning disabilities in your classroom?

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E6. Discuss issue of over identification of learning disabled.

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3.8 UNIT SUMMARY

- Learning disabled children generally have normal or above average intellectual ability. They reach most of the developmental milestones at the appropriate age level or even sometimes earlier. Usually they are not easily differentiated from normal population. They may go undetected till they experience continuous failures in academic skills.

- Some children cannot learn efficiently due to specific breakdown in the learning process, involving listening, thinking, perceiving, memory and expression. Such difficulties are called specific learning disabilities. Yet another group of children has difficulty in learning as these children have below average intelligence. Therefore, their capacity to learn is limited. There are children having borderline intelligence and are called slow learners. Many may also have mild mental retardation.

- When a person is having inadequacy or limited ability in learning a wide variety of tasks involving different levels of intellectual functioning, he/she can be considered to have general mental retardation. On the other hand if the limitation is restricted to certain areas of learning, especially language and number related areas, s/he can be considered to have learning disability.

- The terms 'learning problem', 'learning difficulties', 'learning disabilities', 'underachievement', 'slow learners', 'scholastically backward' and such other phrases are used in the educational circle to refer to children who do not perform well consistently when given a test in the class and is lower than his class level. When compared to their class norms they lag behind academically causing concern to their parents and teachers.

- Attention disorders, such as Attention Deficit Hyperactivity Disorder (ADHD) and learning disabilities often occur at the same time, but the two disorders are not the same? Students with ADHD might show hyperactive/fidgety behaviors,

inattention/distractibility problems, and/or impulsive. Students with LD have a neurologically-based processing problem that interferes with the ability to master specific learning skills.

- Learning problem, underachievement, scholastic backwardness and academic backwardness' are broad terms to mean a child who does not perform in academics and is lower than his class level.

- Aphasia is the Greek term for "speechlessness". It is also known as aphemia or loss of ability to produce or apprehend the nuances of language. This deficiency is not a condition that is triggered by deficits in the sensory, intellect, psychiatric functions or due to muscle weakness as is commonly believed. It is also not a cognitive disorder.

- A child with learning disability usually gets identified only after he is admitted to school. Nevertheless, alert observation of the child's age appropriateness for listening, speaking, and coordination of motor movements, attention and concentration on specific activities help in identifying or suspecting problems in pre school children. To confirm the child's problem various techniques can be used such as observation, checklists, functional assessment and reports. Observation of everyday classroom behaviour provides much authentic information.

- Usually, screening checklists list common symptoms found in children having learning problems in the areas involving visual perception, attention, memory, behaviour, motor aspects, and reading, writing and arithmetic.

- Parental reports play a major role in identifying the children with learning problems. Medical reports will help us to find out the probable causes of the learning problems which in turn help in providing remedial measures.

- The educational assessment processes begins with checking the child's hearing, vision, and motor abilities and refer for assistance if needed. Gather data on emotional, cultural, environmental aspects. Assess behaviour and current level of achievement. This information is important for the teacher as it provides the platform for further planning of educational intervention.

3.9   GLOSSARY

| **Aphasia** | : | Aphasia is the Greek term for "speechlessness". It is also known as aphemia |
| **Aphemia** | : | Aphemia is loss of ability to produce or apprehend the nuances of language. |

Attention Deficit

Hyperactivity Disorder	:	Attention Deficity Hyperactivity Disorder is (ADHD) difficulty in concentrating and staying on a task, accompanied by hyperactivity.
Broca's area or Wernicke's area	:	Broca's area or Wernicke's area is part of the brain's left frontal lobe associated with the ability to speak.
Functional assessment	:	It is assessment of factors or events that maintain or trigger certain behaviors in order to devise interventions.
Hyperactivity	:	Hyperactivity a condition characterized by uncontollable, haphazard, and poorly organized motor behaviour.
Inclusion	:	Inclusion is the policy of placing all the students with all categories and severities of disabilities in their neighborhood school and the general education classroom for instruction.
Left hemisphere	:	Left hemisphere is cerebral hemisphere of the brain, which receives sensory information from and controls movement of the opposite side of the body.
Multilingualism	:	Multilingualism is the ability to think about and reflect from the structural and functional features of language.
Prevalence	:	Prevalence gives a figure for a factor at a single point in time.

3.10   ANSWERS TO CHECK YOUR PROGRESS

1. The term 'Learning Disability' indicates limited ability in learning. When a person is having inadequacy or limited ability in learning a wide variety of tasks involving different levels of intellectual functioning, he can be considered to have general mental retardation. On the other hand if the limitation is restricted to certain areas of learning, especially language and number related areas, he can be considered to have learning disability. In order to differentiate the two kinds of limitations, the term 'General Learning Disability' is suggested as an equivalent for mental retardation and the term "Specific Learning Disability" for disabilities observed only in certain areas of learning.

2. Attention disorders, such as Attention Deficit Hyperactivity Disorder (ADHD) and learning disabilities often occur at the same time, but the two disorders are not the same? These are two separate and very different problems. Students with ADHD might show hyperactive/fidgety behaviors, inattention/distractibility problems, and/or impulsive. These behaviors, can be seen at school, at home, and with peers. Students with LD have a

neurologically-based processing problem that interferes with the ability to master specific learning skills.

3. A child with learning disability usually gets identified only after he is admitted to school. As his general performance in non-academic areas seems normal he does not get identified in preschool years. Nevertheless, alert observation of the child's age appropriateness for listening, speaking, and coordination of motor movements, attention and concentration on specific activities help in identifying or suspecting problems in pre school children.

4. SNDT has developed few tests namely, Diagnostic Test for Identification of Learning Disability, Behavioural Check List, Test of Thinking Strategies and tests to detect learning disability in three languages. Arithmetic diagnostic test for primary children (Rama, 1994). Reading test in Kannada by the same author is in use in Kannada. Grade level assessment device for children with learning problems in schools (Jayanti Narayan, 1997) is also useful in identifying children at primary level. NIMHANS, Bangalore has also developed a test for psychological assessment of children in the clinical setting which is widely used for identification of behavioural/ emotional problems and learning disabilities.

5. Check the child's hearing, vision, motor abilities and refer for assistance if needed, Gather data on emotional, cultural, environmental aspects. Assess behaviour and current level of achievement. This information is important for the teacher as it provides the platform for further planning of educational intervention.

6. The increase in the number of children identified as learning disabled has occurred in direct proportion to the decrease in number of students identified as mentally retarded. The greater reluctance of parents to identify children as mentally retarded resulted in over identification of children as learning disabled. Another reason for increase in prevalence of CD may be that the field is relatively new. It may take few years to decide how to identify children in this category.

3.11 ASSIGNMENTS

Q1.   How do you differentiate learning disability from mild mental retardation and borderline intelligence?

Q2.   Name the tools useful for identification of learning disability?

Q3.   Discuss the Implications of Multilingualism in the context of Learning Disabilities?

Q4.   Describe the educational assessment involved in identifying Learning disabled?

Q5.   Discuss the issue of over identification of learning disabled?

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UNIT 4   BASES FOR INTERVENTION

Structure

4.1   INTRODUCTION

The purpose of this unit is to familiarize you with the fundamental facts about the bases for the intervention strategies. How often have you heard a child being described as having the capabilities yet unable to perform.

The following subtopics will throw light on the various options available to help the teacher better address and manage the variety of learning needs in the class rooms.

4.2   OBJECTIVES

After reading this unit, you should be able to:

- identify the various senses and their modalities;
- explain the concept of sensory processing;
- discuss the role of senses in learning;
- explain the implication of the sensory processing difficulties;
- explain the importance of using VAKT;
- explain the importance of using the concept of learning styles and multiple intelligence while planning for class room teaching;
- assess the learning styles and multiple intelligence of your self and your students; and
- use various cognitive styles for better understanding of your students' profiles.

4.3   LEARNING THROUGH SENSES

A teacher once came up and commented ……. "Some children of my class do not seem to benefit from the way I teach and all my efforts to help them seem to be a waste. Some of them are sensitive to sensations; others are inconsistent and confused in their responses to situation. They also exhibit disorganized behaviours, delayed motor development, poor coordination, reduced self control, self esteem, inattention and subsequently low academic skills". Can you help me to reach out to my students? Do you have the answer...?

The senses play a vital role in learning. Every move we make, every object we touch, every sight we see and every sound we hear produce sensations that are registered in our brain. Our senses receive information from both outside and inside our body and provide us with the information we need to function in the world. When all our senses are operating efficiently, then provide reliable information to our brain and this information is effectively interpreted to help us build an accurate picture of ourselves and about the world around us, enabling us to interact with the environment and with other people.

The sensory systems are classified into the following area:

- Auditory-hearing
- Visual-vision
- Vestibular-equilibrium and body position
- Tactile-touch
- Kinesthesia movement
- Olfactory (smell) and
- Gustatory (taste).

Children learn about their bodies through touch, movement, and body position and learn about their environment through sight, sound, smell and taste. Childhood is an ongoing development of body and mind through an interpretation of the senses. These sensations are used to survive, satisfy the desires and to function smoothly.

Some children display behaviour like

- Low or high activity levels
- Impulsivity, fidgety, inattentiveness and distracticity.
- Poor sense of body awareness.
- Immature gross motor skills (running, climbing) and fine motor skills (drawing, cutting).
- Poor bilateral co-ordination(using both sides of the body together as in marching)
- Easily tired and slouch
- Poor oral-motor skills(chewing and speaking)

- Poor sense of rhythm and timing
- Slow response to verbal instruction /or confused.
- Emotional and quickly frustrated.
- Difficulty in calming down, waking up in the morning and falling to sleep at night.

What is the Reason for the above Behaviours?

The answer is in difficulty with sensory processing.

Sensory Processing

It is the ability to organize and interpret information for our use in every day life. Normal information processing involves:

1. SENSORY INPUT

Sensory receptors are stimulated e.g.- eyes, skin, joint receptors, and ears

2. PROCESSING
The input is organized, interpreted, perceived, stored and related to previous experience.

3. REACTION
A motor response is generated .For e.g. hand movement, running, speeches

For example: As we climb the stairs, our brain senses that we are moving upwards, forward and from side to side. And we make adaptive responses without conscious efforts-by extending our legs, alternating, and our feet maintain our balance, keep upright and watch where we are going.

Sensory processing is important for the following everyday functions:

- Academic skills	- Hand preference
- Attention	- Healthy relationship with others
- Auditory discrimination	- Kinesthesia
- Balance	- Muscle tone
- Bilateral co-ordination	- Postural stability
- Body awareness	- Motor planning
	- Self comforting
	- Self esteem

• Body position	• Self protection
• Emotional security	• Self regulation
• Eye hand co-ordination	• Social skills
• Eye-foot co-ordination	• Speech and language skills
• Fine motor skills	• Tactile discrimination
• Flexibility	• Visualization
• Force of movement	• Visual discrimination
• Gravitational security	
• Gross motor skills	

Imagine if we could not process the information efficiently, what would be our response and reaction.

Sense	Information	Modality	Deficit in Processing
Auditory	About what we hear (auditory memory), distinguish between similar sounds (auditory discrimination), distinguish and interpret the meaningful sound from unimportant sound (auditory figure ground)	Hearing	Difficulty in developing communication and literacy skills; over reaction to noises and sounds that most people do not notice; Lack of awareness of sounds and noises that should be noticed.

Visual	About contrast between light and dark, colour and movement; detect visual images; evaluation of events; recognize similarity and difference between object, form, sizes, and positions; distinguishing objects from their background; identifying the position of objects in space; recognizing of letters and numbers, left and right.	Eyes	Poor eye hand co-ordination; poor fine motor skills such as writing, and poor cognitive skills like reading.
Vestibular	About position; change of head position; body balance; movement from neck, eyes, and co-ordination of both sides of the body together, adjustment of levels.	Semi circular canals in the inner ear	Poor muscle tone; poor co-ordination of eye movement with head movement; awkward and un co-coordinated.

Poor alertness levels. |

Tactile	About pressure, vibration, temperature and pain; discriminating between threatening and non threatening sensations.	Skin	Over reaction to sensations; unaware to pain or pleasant sensations; emotionally insecure; poor social skills; poor academic learning; poor body awareness
Kinaesthesia	About position, force, direction, and movement of our own body parts; information about how joints bend and straighten and muscle stretch or contract ; helps us to walk smoothly, run quickly, climb stairs.	Muscles and joints	Stiffness, uncoordinated, clumsy, bumping and crashing into objects, difficulty with eating and speaking, chewing on pencils and cuff

Thus we see that the ability to register information, filter extra input and have an optimal state of alertness to attend to tasks affects a child's performance in the class room, as learning depends on all these abilities.

So how does sensory input affect alertness levels? As a teacher it is important to know this:

Billo had a habit of getting up from his seat. So two different teachers dealt with him differently.

Math teacher said, "If you get up from your seat again, you will stay in during recess." On hearing so Billoo kept repeating the instructions in his head," *I must* sit still, I must not move." The result was that he did sit on his seat, however as *this thought had taken all his thinking space, little or no work got performed. English teacher on other hand notices and knows that Billoo needs to take a short walk and carrying a light load will provide enough stimulation to settle down. So*

she asks him to take some books to the library. The child returns and is able to sit at the desk and complete the work at hand.

Which out of the two do you think was a better way of handling?

Know your students well. If you detect any of the features as mentioned earlier in this section, then do an informal assessment using the informal scale and refer the child for sensory integration therapy to an occupational therapist.

NOTE: *The informal assessment profile is appended*

Check Your Progress

Notes : a) Space is given below for your answer.

b) Compare your answer with the one given at the end of this unit.

E1. What is the role of different senses in learning?

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E2. What is sensory processing?

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E3. What are the features of a child with sensory processing difficulty?

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Multisensory Techniques (VAKT Method)

The multisensory approach is commonly called the VAKT method-where V stands for visual sense; A stands for auditory sense K stands for kinesthetic sense and; T stands for tactile sense. The learning that happens in a multisensory environment increases the nerve links in the process of recall through association. This technique should be frequently used for students with LD as it stimulates learning by engaging students at multiple levels. It will encourage the students to use some or all of their senses to:

- Gather information about a task;
- Link information to ideas they already know and understand;
- Perceive the logic involved in solving steps;
- Learn problem solving steps;
- Tap into nonverbal reasoning skills;
- Understand relationship between concepts; and
- Learn information and store it for later recall.

Students with LD typically have differences in one or more areas of reading, writing, math, listening comprehension, and expressive language. Multisensory technique enables students to use their personal strength to help them learn. Every student has an area of sensory learning strength called learning styles and when students are taught using techniques consistent with their learning styles, they learn easily, faster, and can retain and apply concepts more readily to future learning. So by using the multisensory approach the teacher can help a wide range of children who have different learning styles in the classroom. This method also helps in compensating for any specific weakness.

Visual Teaching Methods

- Pictures on paper, poster, models
- Films, video
- Use of colours for highlighting, organizing information
- Graphic organizing (making information bubbles of the written text)
- Student created art, images, text, pictures, and video

Auditory Teaching Methods

- Books on tapes, peer (classmates) assisted reading
- Video, film, with accompanying audio
- Music, song, instrument, speaking, rhymes, chants, and language games

Tactile Teaching Methods

- Using small objects which are called math manipulative to teach counting, addition, subtraction, multiplication, and division.
- Use of modelling materials such as clay and sculpting material, paper Mache to create models.
- Use of sand trays, textured objects, finger paints, puzzles to develop the fine motor skills.

Kinesthetic Teaching Method

- Jumping ropes, clapping of hands, stomping or other movements combined with activities while counting, and singing songs related to concepts.
- Any large motor activity involving dancing, basketball, or other such activities involving concepts, like flashcard race for identification, current affairs quiz.

4.4 LEARNING STYLES

Students learn in many ways, like seeing, hearing, and experiencing things first hand. But for most students, one of these methods stands out. Why is it important? Research has shown that students can perform better on tests if they change habits to fit their own personal learning styles. For example the visual learning students will sometimes struggle during essay exams, because they cannot recall test material that was heard in a lecture. But if the visual learner uses a visual aid when studying, like a colourful outline of test materials, he or she will be able to retain more information.

The school environment favours the presentation of information primarily through auditory sense. Therefore success in most school task requires a transition from tactile-vestibular (of the infancy stage when the child learns through touching and exploring.) to auditory visual learning.

Wine Brenner indicated that in an average class, the approximate break up of learning styles amongst the students would be:

- 35-55 % of auditory learners
- 30-35 % of children are visual learners
- 15-30% of children are tactile and Kinesthetic learners.

So the teachers mostly use the 'chalk and talk' method to teach as a result of which the visual and tactile kinesthetic learners are unable to benefit from the teaching-learning interaction.

Visual learner characteristics: Visual learners are those who learn through seeing things (visual learners).

- ✓ Is good at spelling but forgets names
- ✓ Needs quiet study time
- ✓ Has to think for a while before understanding lecture
- ✓ Is good at spellings
- ✓ Likes colours and fashion
- ✓ Keeps Workbook pages neat
- ✓ Shows interest in the visual cues in texts (charts, graphs, photograph)
- ✓ Draws while listening
- ✓ Enjoys playing with puzzles

- ❖ **Learning Suggestions**

- ✓ Draw a map of events rather than words to interpret information.
- ✓ Diagram of sentences
- ✓ Colours code the words
- ✓ Use of flashcards
- ✓ Use highlighters, circle words, underline
- ✓ Outline reading
- ✓ Watch video, use demonstration rather than reading
- ✓ When he/she makes mistake show the correct version
- ✓ Use stories with excitement, humour, and adventure

Auditory Learner Characteristics: Auditory learners are those who learn best through hearing things.

- ✓ Likes to read out to self aloud.
- ✓ Moves the lips when reading silently.
- ✓ Demonstrates good listening skills,
- ✓ Is able to match the sounds and letters.
- ✓ Is not afraid to speak in the class.
- ✓ Is good at explaining.
- ✓ Remembers names.
- ✓ Follows spoken directions well.
- ✓ Uses self talk to help remember information.
- ✓ Is consistently talkative and chatty.
- ✓ Enjoys being on the stage and acting.

❖ **Learning Strategies**

✓ Recording the lectures
✓ Talking to others about what is learned
✓ Repeating facts with eyes closed
✓ Participating in group discussion.

Kinesthetic Learner: Kinesthetic are those who learn through experiencing/doing things. A Kinesthetic Learner

✓ is well co-coordinated.
✓ is naturally competitive.
✓ has difficulty sitting still.
✓ likes to touch things.
✓ is not good at spellings.
✓ does not have a good handwriting.
✓ studies with loud music on.
✓ likes role play.
✓ takes breaks while studying.
✓ appears to lose attention quickly when listening to long conversation.
✓ builds model and dances.
❖ **Learning Strategies**

✓ Studying short blocks
✓ Receiving concrete examples at the beginning of a learning experience
✓ Hands on activities
✓ Moving while learning
✓ Acting out stories and events
✓ Learning stories with a lot of adventure, action, excitement
✓ Taking to field trips, visiting museums
✓ Using memory games

In evaluation also, we can make necessary adaptations. The visual learner will respond well if the test is in the form of diagram, essays, showing a process and not a listen and respond test. Similarly for an auditory learner, oral exams and written response are good way to assess. Where as the kinesthetic learner performs best if the test involves short definition, fill ups, and multiple choices.

Check Your Progress

Notes : a) Space is given below for your answer.

b) Compare your answer with the one given at the end of this unit.

E4. What is learning style and why is it s knowledge important for teaching classroom?

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E5. What kind of adaptations will you do for a child with learning disability while making the test pater?

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4.5   COGNITIVE STYLES

Suraj is the first grade child who has been labelled as hyperactive. His teacher asks him to find an educational toy to play quietly while she works with the children in the classroom. He jumps from one game to another, never finishing any of them. So he gains little from the experience. His class mate Gunjan completes her work, and is given the same instruction as given to Suraj. She chooses one game and plays it over and over again in order to improve her performance and score

She does not realize when the time is up. Where as Suraj feels too much time has been given to him. The teacher called them back and asked the two children to share which game they have played with. Suraj's hand went up because he had tried them all. But when he was asked to demonstrate a game, it was Gunjan who was ready.

Is one child better than the other?

Schoolwork can contribute to learning disabilities when they require students to use problem-solving strategies that are not their style of working. Cognitive styles are the preferred way of working and interacting with the world. And they remain the same through out life.

Gunjan has a reflective cognitive style and Suraj has an impulsive style. Schoolwork is more compatible with the reflective approach than impulsive approach. Students who are experiencing learning problems may have learning abilities, but their learning is not appropriate for the demands of the class. This is reflected as underachievement and difficulty in using information for overall understanding. When the curricular demands match students' preferred learning styles and when students are taught more effective learning strategies these students can learn well.

Following are some of the common learning styles found in the students with LD.

- *Impulsive and Reflective Learners*

  Impulsive learners are more represented in students with LD than an average student. This style is characterized by low attention span, distractibility, and pre mature decision-making. They are restless, cannot concentrate for long, are always impulsive in their actions and react before understanding directions and have social difficulties because they do not stop to consider the consequences of their actions. Impulsive children get through tasks fast because they aren't concerned to take the time to avoid errors. They prefer to focus attention on the overall picture and are able to recognize the outlines and themes and so are able to do global analysis well.

  Reflective learners are over focused, delay their decision for long, and concentrate so long on bits of information that they miss out on the main point. Reflective children are

slower in their response and often "correct "in their behaviour and response because they fear being wrong. These children prefer to analyze fine details, which takes time.

The school curriculum favours the reflective learner because the schoolwork demands attention to details and taking time to think for an answer. Even though the impulsive students are able to solve the problems they do not contain the answers, get the overall view of the situation quickly, yet the demands of the school curriculum are not suited for the impulsive learner who is a global learner. Therefore these children's failure increases.

- *Low Conceptual and High Conceptual Learners*

Teacher gave the students work to do in the class and asked the students to "memorize" the story. Some students wanted the teacher to tell them the questions to be asked before the narration of the story so that they are more attentive in listening, and can later answer the questions from the text that they have heard. Whereas some of the other students wanted the questions to be asked later after they had heard the story so that they could give their own answer and not pick it out of the passage heard.

The *low conceptual learners* depend on rules and have difficulty in forming their own rules. They find it difficult to direct their own learning. So they benefit from the teacher directed instruction. If the rules of doing work are given before, then they know the steps they have to take for working and learning. For example, they have to be told about all the information needing attention and the examples used to explain the information.

High conceptual learners develop their own rules, learn using their own strategies, listen and can follow different viewpoints, and can use alternative strategies when solving problems. They like to enquire, be assertive, and are able to learn and deal with difficult information independently. So they like to learn by the discovery method where they have to do project work and do research work and learn the concept by themselves and not by the teachers' help. School work favours the high conceptual learner And the teachers often ask questions like "How could we solve this problem?" or "Why did this happen?", without giving options for an appropriate answers. So the low conceptual learners are unable to perform in the class. And the majority of students with LD are low conceptual learners.

- *Simultaneous and Successive Learners*

The task in the class given by the English teacher was to hear the word and then look for the words in the word bank chart on the wall and write them down. Each student had only a limited time to do the work. Some students finished the work even before time because they could scan the chart, get an overall picture and picked the words. Whereas others, who were systematically searching each column of words, took a lot of time to respond.

Students who prefer a *simultaneous* processing strategy do better on tasks needing understanding of spatial concepts-like comparison of two glasses which are of different

shapes but contain the same amount of water in it, or deciding whether two lines are still of the same length when the distance between them increases. *Successive* learners are better at sequencing the language and sounds and are better at learning to read and comprehension. For being successful in the school work the students need to use the simultaneous approach for visual motor tasks like writing, sports, dance, etc and the successive approach to do auditory and verbal task like the reading and learning and narrating activities. But students with LD use these approaches inappropriately. And if they are successful in solving a problem, it takes longer, thereby reducing the enjoyment of doing a task.

Check Your Progress

Notes : a) Space is given below for your answer.

b) Compare your answer with the one given at the end of this unit.

E6. As a teacher what kind of strategy will you use with a low conceptual learner?

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E7. What are the characteristics of an impulsive learner?

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4.6 MULTIPLE INTELLIGENCE

The school allows plenty of imaginative students to go unrecognized and let their talent go untapped simply because the teachers focus attention mainly on numbers, words, and not enough on images and pictures or sports. Many of these children may end up as being diagnosed as LD. Educational psychologist Howard Gardner has explored eight ways to think and learn. According to him you are stronger in some areas of intelligence than others. But everyone has one's own strengths and limitations. There is no best way to learn. All are important. Students and preferences affect not only the ease with which they learn but also how they can best represent what they know and understand. Gardner's eight intelligences are:

- Verbal / linguistic
- Logical-mathematical
- Visual-spatial
- Bodily-kinesthetic
- Musical-rhythmic
- Interpersonal
- Intrapersonal
- Naturalist

Our schools unfortunately only deal with two of them exclusively-verbal-linguistic and logical-mathematical. This means, the child who reads, spells, and may do math, goes to top the class? Many children are not so gifted in these but may be talented in one or more of the other intelligences? All too often these children run the risk of being labelled as "learning Disabled".

Sitting quietly in classroom is totally against the nature of the bodily-kinesthetic children, and who then may be considered "hyperactive", spatial children who need images and pictures to learn, are often termed as "Dyslexic" because they have to learn through abstract numbers and letters which cannot be represented always in pictures. Such children seldom learn well in the regular class room. If we give classroom instruction appropriate to their basic intelligence then we can give hope to a number of children who are unable to benefit from the conventional classrooms.

Gardner's theory of multiple intelligence gives the outline for finding the eight ways that *students can use to learn.*

Children who are highly?	Think	Love	Need
verbal-linguistic	in words	reading, writing, telling stories and playing word games	stories, paper, books discussion, tapes
logical-mathematical	by reasoning	experimenting, questioning, puzzles, calculating	material to experiment with, math teaching aids, visit to the planetarium, museum etc.
visual-spatial	in pictures and images	designing, drawing, visualizing,	building blocks, movies, videos, mazes, puzzles, illustrated books
bodily kinesthetic	through movement sensation	dancing, running, jumping, building, touching, gesturing	role play, drama, movement, things to build, sports, physical games, hands on learning
musical	using rhythm, and melodies	singing, whistling, humming, tapping feet and hands, listening.	musical instrument, music playing at school and home, trips to musical programs
interpersonal	by ideas given by other people	leading, organizing, relating, manipulating, mediating, partying	friends, social gathering, community events

intrapersonal	in relation to their needs, feelings and goals	setting goals, dreaming, planning, reflecting	time alone by themselves, choices,
naturalist	through nature	playing with pets, gardening, investigating, nature, raising animals, caring for planet earth.	time to be with nature, opportunity for interacting with animals, magnifying the binoculars

Eight ways of teaching as given by Gardner

Intelligence	Teaching activities	Teaching materials	Instructional strategies
Linguistic	Lectures, discussions, wordgames Story telling, journal writing	Books, tape recorder, type writer, books on tapes	Read it ,write it, talk about it, listen to it
Logical-mathematical	Brain teasers, problem solving, science experiments, mental calculation, and number games.	Calculators, math manipulatives, science equipment, math games	Quantify it, think critically about it, put it in a logical order, experiment with it
Visual -spatial	Visual presentations, art activities, imagination games,	Graphs, maps, video, lego sets, art material, cameras, picture library	See it ,draw it, visualize it, colour it,
Bodily kinesthetic	Hans on learning, drama, sports tactile activities, relaxation	Building blocks, clay, sports equipment, tactile learning resources	Build it, act it out, touch it, dance it.

	activities		
Musical	Rhythmic learning, jingles, using songs to teach	Tape recorder, tape collection, musical instrument.	Sing it, listen to it.
Interpersonal	Co-operative learning, peer tutoring community involvement, social gathering	Board games, items for role playing.	Teach it, collaborate on it, interact with it,
Intrapersonal	Individual introduction, independent studies, self esteem building,	Material for self checking, journals, material for projects	Connect it to your personal life, make choices with regard to it, reflect on it
Naturalist	Nature study, ecological awareness, care of animals	Plants, animals, binoculars, gardening tools	Connect it to living things and natural phenomena

4.7   UNIT SUMMARY

• Senses play an important role in the way we interpret our internal and external environment. Most of the times these interpretations occur automatically and instantly. This helps us to focus our attention on the work we are doing and not spend time processing the information coming from our senses. Problems develop when this complex system in our brain is not able to process, either automatically or efficiently leading to difficulty in functioning in daily life and interacting successfully with the world around us.

• Multisensory processing is the ability to receive, interpret and integrate information from more than one sensory system at a time. It receives information about sound, visual, images, movement, gravitational pull, touch sensation, odours and flavours. Multi sensory processing improves learning and memory

• Learning styles are individual preferences for where, when or how a student gets the information and processes it. Visual learners process information most effectively when they can see what they are learning. Auditory learners need to hear information to help

them learn ,and kinesthetic and tactile learner learns best when they use and play with objects or materials

- Every student has a preferred way of using strategies of Learning which helps them to look at and interact with the world. When the school curriculum matches with the child's cognitive style or problem solving strategies, the student learns well or else it leads to underachievement.

- According to multiple intelligence theory each person has capacities in all eight intelligences. And these function together in ways unique to each person. Some people appear to possess extremely high levels of functioning in all or most of the eight intelligences. And every one has the capacity to develop all the eight intelligences to a high level of performance if given the appropriate instruction, and encouragement.

4.8   GLOSSARY

VAKT: V- Visual sense; A- Auditory sense,

K- Kinesthetic sense, T- Tactile sense

Impulsive Learner: Learner having low attention span, distractibility, and prmature decision making character

Reflective Learner: learner who are slow in their response but correct in their behaviour and response.

4.9   ANSWERS TO CHECK YOUR PROGRESS

E1. Senses are important for developing correct understanding to facilitate learning. Functioning of an individual depends upon the information one received through senses. Our brain received inputs from senses and then interprets to get accurate picture and enable an individual to interact with other people meaningfully.

E2. The ability to organise and interpret information for day to day life is called sensory processing.

E3. Important features are;

- Attention span

- Body awareness

- Eye-hand coordination

- Emotional security

- Speech and language difficulty

E4. Children learn in many ways like; seeing, hearing, and experiencing things etc. Different child learn differently. Each child has their own ways and means of learning called learning style. Teacher is expected to know the style of learning of each child for planning and preparation of classroom teaching.

E5. It is advisable to put alternate questions for each item in a question paper. So that children having different learning style can select item to respond as per their strength. Care need to be taken that each alternate items are of same or approximately the level of difficulty.

E6. Individual attentions with examples are illustrations as per the interest of the learner can motivate the learner towards the learning process. There should be set of guidelines for the learner to understand the concept and for better practice. Children should be given freedom and flexibility in selecting items for developing their concentration slowly.

E7. Basic characteristics of an impulsive learner are;

- Low attention span

- Distractibility

- Premature decision making ability

- Lack of concentration

- React before understanding

4.10 ASSIGNMENTS

From your school identify a group of 10 children with learning difficulties in different areas. Prepare a profile for each child. Assess their learning style and plan specific cognitive style for improving their learning.

4.11 REFERENCES

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UNIT 5 TEACHING LEARNING STRATEGIES AND MATERIAL (TLS & TLM)

Structure

5.1   INTRODUCTION

Remedial teaching is the most vital ingredient of the whole special education cycle. This is the aspect which directly deals with bringing the child with SEN (special educational needs) at par with the rest of the class. It is possible that the child with SEN never reaches the performance level of the other children of his/her age, which implies that his/her performance may always fall short of the expected performance and he/she might need support throughout his/her school life (till the time his education continues!).

Remediation techniques refer to the support system that teachers employ when they alter the direct instructional developmental lessons. They are characterized by utilizing the same learning channels with variation of techniques, instructional group size and demands on student production.

Points to keep in mind – Remedial instruction

- *is by and large carried out on a one to one basis*

- *programme planned for an individual rather than for group or entire class*

- *it helps students to cope with specific learning problems*

- *it is designed to help students catch up to a desired level of academic achievement*
- *in the United States and Canada, remedial education is common at all levels of schooling, from preschools through colleges and universities*
- *The most common remedial education programs focus on developing students' basic skills in* reading, writing, *and* mathematics.
- The goal is to tailor learning experiences to the unique needs of each student.

5.2 OBJECTIVES

After reading this unit, teacher trainee would be able to:

- explain the meaning of remediation; and
- list strategies in different areas of concern; listening and speaking, reading and spelling.

5.3 STRATEGIES FOR LISTENING AND SPEAKING

Listening as a skill is often not given due importance as an element of language. Students are expected to acquire the ability to listen without any special instruction from the teacher. However, there are many students who do not acquire the skills in listening by themselves. Listening is a basic skill that can be improved through practice. One reason for poor listening could be that the students are over stimulated by so many sounds that the students fail to focus on the required information.

- **The following are the strategies for the developing listening skills:**

  1. **Phonological Awareness of Language Sounds** – Pre-reading skills include the knowledge of phonemes, which are the sounds of our language. The children need to be aware of different phonemes and must understand that words are made of different individual sounds. The following activities could be used to build phonological awareness-

     √   Change in poem – Have children listen to and detect the slight change in the name of a familiar story or poem, such as "Baa, Baa, Purple Sheep" or "Jack and Bill went up the hill".

     √   Clapping Names – Ask children to clap out syllables in names and words. For example, clap "san-gi-ta" (three claps), bi-pa-sa (three claps).

     √   Finding Things or objects with Initial phonemes: Use real pictures or objects. Say the name of the object and ask children which picture or object begins with the same sound. For example, the initial consonant h may be presented with hen, honey, house, horse and hot.

√ Take Away a Sound – Have the children say the name or a word without the initial sound. For example, say, _am (for Ram), _ar (for Car).

√ Add a Sound – Say a word pair, with the second word adding a sound. For example, "mile, smile", "boy, boys".

√ Rhyming Words – Ask the children to give rhyming words. For example, words that rhyme with "cat" are "bat, sat, mat".

2. **Understanding Words and Building a Listening Vocabulary** – Listening requires that students acquire a listening vocabulary. Students must understand the names of things, actions, and more complex terms.

√ Naming Objects – To help students learn the names of objects, use actual objects, like book, pen, and eraser.

√ Verb Meanings – You could teach the meaning of verbs or "doing" words by performing the activity.

√ Pictures – Use pictures in reinforcing the vocabulary taught.

3. **Understanding Sentences** – Sentences are more difficult to understand than words. Some students with language difficulties need extra practice in understanding sentences.

√ Simple Instructions/directions – Give simple instructions in sentences to give the students the extra practice they need. For example, "Give me the yellow glass" or "Put the book in the bag".

√ Riddles – Use riddles and let the students pick the correct word. For example, for the word "glass", you may say "I am thinking of something we use to drink water in".

√ Look for the Picture – Line up a few pictures and describe one of them aloud. Ask the student to point out to the correct picture.

4. **Listening Comprehension** – Listening comprehension is when the information is received by hearing language rather than reading language.

√ Following Directions – The students listen to directions for making something. Keep the supplies ready and ask students to follow the directions.

√ Getting the Main Idea – The teacher reads a short unfamiliar story and asks the students to give an appropriate title for the story.

√ Understanding Sequence of Events – The students listen to a story and are asked to pictorially (or use flashcards) to depict the sequence of the story.

√ Listening for Details – The teacher can read a story aloud and ask detailed questions about that. Phrase questions to ask WHO, WHAT, WHEN, WHERE, WHY and HOW.

5. **Listening to Stories** – Story reading is a very good strategy for building oral language.

   √ Select well illustrated books to read aloud. Select predictable books to read aloud to encourage children to finish or complete the missing parts.

Ñ **The following are the strategies for the speaking skill:**

Speaking is a vital component of language acquisition and communication. Listening and speaking go hand in hand and both are the first to be developed in the stages of language development. Though most children go through the language milestones with relative ease, there are a few who are not at par with their counterparts as far as speaking is concerned. The adults/caregivers and teachers in their environment need to take that extra step in order to enhance the language development of such children.

A few strategies for teaching language (speaking) in a general classroom are:

√ Provide ample opportunities to students for speaking, explaining and giving their point of view. This could be done in all subject classes as well as performing arts classes. The children are encouraged to verbalise their moves, their actions, their moods and listen to others do the same.

√ Encourage discussions on topics which are of general interest. This could include current movies, books or any event which has (or will) take place. e.g. going to visit a place, party etc.

√ Teach vocabulary which is connected to a certain topic of study. For example, when doing wild animals, include words like extinction, and endangered.

√ Encourage the students to do role plays or enact out stories and plays

√ Encourage students to verbalise about their hobbies, affinities, interests. This could include movies, books, shows, sports and so on.

√ Get the students to demonstrate how to make something and explain the procedure stepwise.

√ Provide good language role models.

5.4   STRATEGIES FOR READING AND SPELLING

Reading and spelling skills are closely related. Also above average reading and spelling skills are indicative of not only superior comprehension but also the trait of reading for "pleasure". Like it is commonly said, children should first learn to read so that later they can read to learn. There are different schools of thought which teach how reading and spelling could be taught.

• **Strategies for teaching spelling**

1. ***Auditory perception and memory of letter sounds:*** Provide practice in the sound of the letters (letter-sound association). For example A says /a/ (the bars imply the sound of the letter and not the name).

2. ***Visual memory of sounds:*** Help the students strengthen visual memory (how the letter looks like) so that the visual image of a word can be retained. Materials should be clear and concise, and the students should be helped to focus attention on the activity. For this flashcards could be used. e.g. present the cards for identification of letters.

3. ***Multisensory methods in spelling:*** Students who are told to study spelling lessons are frequently at a loss as to what to do. The following is a multisensory approach that engages the visual ,auditory, kinesthetic and tactile senses:

    a) *Meaning and pronunciations:* Have the students look at the word, pronounce it correctly and use it in a sentence.

    b) *Imagery:* Ask students to 'see' the word and say it. Have them say each syllable of the word, say the word syllable by syllable, spell the word orally and then use one finger to write the word either in air (sky writing) or by touching the word itself.

    c) *Recall:* Ask the students to look at the word and say it. Then close their eyes and see it in their mind's eye. Have them spell the word orally. Then ask them to open their eyes and look at the word to see if they were correct (if they make an error they should repeat the process again.)

    d) *Writing the word:* Ask the students to write the word correctly from memory, check the spelling against the original and check the writing to make sure every letter is legible.

    e) *Mastery:* Have the students cover the word and write it. If they are correct they should cover and write it two more times.

4. ***Listening centres and tapes:*** Spelling lessons can easily be put on audiotapes. Earphones allow for individualized instruction and help many students to block out distracting auditory stimuli.

5. ***Computer spell checkers:*** Students should learn how to use these spelling devices as an aid to spelling.

- **Strategies for improving word recognition**

    1. ***Building phonological awareness:*** A child who is learning to read must first become aware of the sounds in the words and language. Strategies for teaching phonological awareness such as learning to count the sounds in words to segment the sounds and syllables in words, and learning to recognize rhyming sounds.

2. ***Reading books with regular phonics patterns:*** This is a good method to drill certain word families and generalize the phonics rules. The student could be encouraged to read book which has phonics patterns like,

> Nan can fan Dan
> Can Dan fan Nan?
> Nan, fan Dan.
> Dan, fan Nan.

- **Strategies for improving fluency**

  1. In addition to recognizing words accurately readers must read them quickly and fluently. Otherwise, reading is laboured and boring, and the reader loses meaning.

  2. ***Repeated reading:*** This is a strategy for giving the student repeated practice to improve his or her oral reading fluency. It is especially useful with slow, halting readers who accurately identify most words in a passage but have not developed fluency.

  3. ***The K.W.L technique:*** This is a technique for reading and studying content area textbooks. There are three steps of a lesson:

     √   *-K:* What I know. The students think of and state all the knowledge they have on a subject. A group of students can pool their knowledge.

     √   *-W:* What I want to find out. Each student thinks of and writes on a sheet of paper what he or she wants to learn (or expects to learn) from the reading.

     √   *-L:* What I learnt. Students read the lesson silently and write what they have learnt from the reading. Answers to these questions can be shared by the group.

5.5   COMPRHENSION

The purpose of reading is comprehension which means getting meaning from the printed text. For many students, comprehension is very difficult. Comprehension skills do not develop automatically. Teachers have to directly instruct the students when teaching comprehension skills.

Strategies to promote comprehension

- Encourage students to monitor their comprehension. The students learn how to be aware of their understanding of the printed matter. Students should ask themselves after each paragraph (or sentence) if they have understood what is written.

- Cooperative learning. Here, let the students learn reading strategies together and use them effectively in small groups.

- Use of graphic organizers and story maps. Students are encouraged to make graphic representations of the written matter or put the story in a visual format.

- Oral questioning. The students answer oral questions asked by the teachers and get immediate feedback on their understanding of the information.

- Asking questions (making questions). The students make questions themselves about different aspects of the story.
- Summarization. The students are encouraged to give the jist of the story in their own words after reading it.

5.6   HANDWRITING

Aneesh becomes fatigued after writing only a few sentences. And shows extreme frustration when writing to express thoughts on paper. His work is very messy i.e. size shape, slant, spacing and smoothness is not maintained. So, he is constantly erasing work and while writing he does not do enough planning or organization (left to right).

Handwriting is the most concrete of all basic academic skills. And it is also important for most of the written expression. Regardless of how well organized a written passage may be, it will not convey a thought adequately unless it is presented in a legible fashion. Hand writing deficits have been called dysgraphia or visual-motor integration problems. It could also be due to directionality confusion or to reduced motivation. Following are the competencies necessary for developing handwriting skills.

Prerequisite skills for handwriting

- Able to touch, reach, grasp, and release objects.
- Able to distinguish similarities and differences in objects and designs.
- Has established handedness.

Handwriting skills

- Grasp the writing aid(pencil, crayon, sketch pen, pen).
- Moves writing aid up/down.
- Moves writing aid from left to right.
- Moves writing aid in a circular manner.
- Copies letters.
- Copies own name in manuscript form.
- Writes own name in manuscript form.
- Copies words and sentences in manuscript form.
- Copies manuscript from far point.
- Copies letters and words in cursive writing.

- Copies sentences in cursive writing.
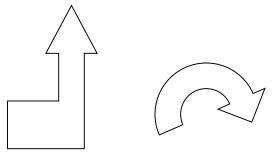- Copies cursive from far point.

Hand writing problems at various stages

- *Prewriting skills:* A number of children are unable to develop handwriting skills because they have not mastered a number of prewriting skills. An understanding of spatial relationship-such as up, down, top, bottom has not been grasped. Correct pencil grasp, paper position, posture, and recognition and copying at different sizes and shapes are other prewriting skills. Fine motor co-ordination is also important for writing. Experience of handling, twisting, grasping, clutching, or squeezing objects to develop hand and finger muscles is very important. This helps in manipulation of pencils and crayons. Otherwise some children hold the pencil too   tight, or too loose, some grasp the pencil with entire fist, where as others attempt to manipulate it with both hands. The inability to copy simple geometric shapes are the other prewriting deficits. All these problems should be corrected during the prewriting stage.

- *Letter formation:* The formation of various letters also causes a lot of problems for many students with LD. The additions, omissions or reversal of certain letter strokes seem to be problems. The most commonly reversed letters include b, d, p, q, and y; the letters u and n are frequently inverted. Letters that descend below the lines (e.g. p, j, and y) are often printed in the wrong size. Difficulty is also seen in writing letters comprised entirely of vertical or horizontal strokes (T, L, H, F). Lack of readiness in using various sizes and shapes and use of inappropriate materials (short pencils, unlined paper) are also responsible for poor letter formations.

- *Manuscript writing:* Children often confuse between lowercase and capital letters in writing especially when the capital letters are taught before lower case letters have been mastered. While copying from the board children sometimes leave too much space or too little between letters and between words. Some others have difficulty remembering how to write certain letters. Letters with simple strokes (l, t, i) are easier to remember than those with varied strokes (b, m, k). Closely related to this is the difficulty in writing some letters (p, c, f) because of the left and right orientation.

- *Cursive writing:* Cursive writing should not be taught to students who are still experiencing difficulty with manuscript handwriting. Well-developed cursive writing comes when there is an association between the print (manuscript) and cursive letters. The multiple letter formations found in cursive handwriting are sometimes confusing to children. The complex movement of this writing contributes to the difficulty of writing in this style. It requires fine motor coordination. So the children have difficulty in remembering where to stop a sweeping or circular movement, how to swing back and how you connect the lines of movement with in complicated letter formations. Closed circular movements (o, a, d, e) and letters requiring a change in the direction of the hand movement (h, j, t, c) are the most difficult cursive letters.

Strategies for teaching handwriting

The following activities are useful in teaching handwriting:

1. *Chalkboard activities*: Circles, lines, geometric shapes, letters, and numbers can be made with large, free movements using the muscles of the shoulder, arms, hands, and fingers.

2. *Other materials for writing movement practice*: Finger painting or writing in clay or a sand tray gives the students practice in writing movements. Students use one finger or a pointed stick to practice writing shapes, forms, letters, and numbers. Small, wet sponge can be used to draw shapes on a chalkboard.

3. *Position:* Make the students write by sitting at a table that is at the proper height. The feet should be flat on the floor and both the forearms are on the writing surface. Each student's nonprinting hand should hold the paper at the top. Have students stand and work at a chalkboard for the initial writing activities.

4. *Paper*: For manuscript writing the paper should be placed without a slant parallel with the lower edge of the desk. For cursive writing the paper should be tilted at an angle – approximately 60 degrees from vertical – to the left for right handed students and the other way for the left-handed student. To help the students to remember the correct slants, paste a strip of tape parallel to the top of the paper at the top of the desk.

5. *Holding the pencil*: A piece of tape or a rubber band placed around the pencil can help the students hold it at the right place. If the students have difficulty in holding the pencil it can be put through a small ball. Have the students place the middle finger and thumb around the ball to practice the right grip. Large pencils, large crayons and thick sketch pens are useful in the initial stages of learning how to write. Short pencils should be avoided.

6. *Stencils and templates*. Make card board stencils of geometric forms, letters, and numbers. Have the students trace the form with one finger, a pencil and a crayon.

7. *Tracing*: Make heavy black figures on white paper and clip a sheet of transparent paper over the letters. Have the students trace the forms and letters. Start with diagonal lines and circles then move to horizontal line, and vertical line, geometric shape and finally letters and numbers.

8. *Drawing lines between the widths of letters*: Have the students practice making 'roads' between double lines in a variety of widths and shapes. Then ask the students to write letters by going between the double lines of the outline letters. Use arrows to show the direction and sequence of the lines.

9. ***Dot*** to ***dot***: Draw a complete figure and then draw an out line of the same figure by using dots. Ask the student to make the figure by connecting the dots.

10. ***Tracing with reducing cues***: Write a complete letter or word and have the student trace over it. Then write the first part of the letter or word and have the students trace your part and then complete the letter or word. Finally, reduce the cue to only the upstroke and have the student write the entire word or letter.

11. ***Lined paper***: Have the students begin writing on unlined paper. Later have them use paper with wide lines to help them determine the placement of letters. Highlight the middle line of the four line notebooks so that the students know they have to place the alphabet of the middle order in the highlighted area.

12. ***Letter difficulty:*** In terms of ease, cursive letters are introduced in the following order: beginning letters – m,n,t,I,u,w,r,s,l, and e; more difficult letters – x,z,y,p,j,h,b,k,f,g, and q; and combination of letters- me, be, go, it, no etc.

13. ***Verbal cues***: Students are helped in the motor act of writing by hearing the directions of forming letters-for example, "down-up-and around". When giving this instruction, do not confuse the student with too many instructions.

14. ***Words and sentences***: Teaching the spacing, size and slants when the child has learnt the letters and is ready to learn words.

Check Your Progress

Notes : a) Space is given below for your answer.

b) Compare your answer with the one given at the end of this unit.

E1. State the importance of pre-writing skills for teaching writing?

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E2. What is the sequence of teaching handwriting skills?

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5.7　MATHEMATICS

Manjeet becomes extremely anxious during math time. He has directional problems so is unable to understand the size and spatial relationship. This shows in his difficulty in doing sums related to place value, fractions and time. Word problems are a difficult area FOR him. To make matters worse he often omits steps in calculation and sometimes disregards the operation sign and the alignment of problems.

Math is generally recognized as an essential curriculum area and adequate performance in this area is usually considered important for school success. Two mathematics problem areas have been identified-math calculations and math reasoning.

Contributing Factors of Mathematics Difficulty

1. **Lack of learning readiness:** Many a times we as teachers present concepts that are beyond the level of cognitive functioning. The ability to count, match, sort, compare, and understand one-to-one correspondence depends upon the child's experience in manipulating objects. Learning math is a sequential process and the early number learning includes:

   - *Spatial relationship*: While playing with blocks, pots, boxes children learn the concept of up-down, over-under, top-bottom, high-low, near-far, front-back, beginning-end and across.

   - *Visual motor and visual perceptual skills*: Some children may have difficulty in counting objects by pointing. They need to physically grasp and manipulate objects. The inability to visually perceive a geometric shape as complete student viewing a square as four unrelated lines and not as a whole. They may display difficulty in perceiving number symbols. Sometimes due to visual motor difficulty, they are unable to copy shapes and numbers. So they are unable to write as well as align the numbers that they write which leads to calculation error.

   - *Concept of time and direction*: As the students have difficulty with time and direction, they are often unable to manage their time well and unable to estimate how long a task will take. They may not be able to judge and allocate the time needed to complete an assignment.

2. **Ineffective instruction:** A lack of sequential skill development and use of inappropriate teaching material are examples of inadequate instruction.

3. **Reading problem:** Difficulty in the area of reading do not necessarily hinder the progress in math, however many reading skills are a hindrance in Maths. For example- reversal and rotation or inversion of letters will also affect numbers. Difficulty with visual discrimination will affect recognition of number recognition. And word problems are an issue due to word recognition difficulty and comprehension.

4. **Interest and motivation:** Due to previous failures, many students become frustrated and discouraged when anything resembling math is given to them.

5. **Information processing difficulties:** A lot of information processing difficulties are linked to mathematic disability, such as paying attention, visual processing, auditory processing, memory, and retrieval and motor skills.

Strategies for Teaching Mathematics

It includes:

1. Determine the student's basic computational skills in addition, subtraction, multiplication, and division.

2. Teach students math vocabulary.

3. Use visuals and graphics to illustrate concepts to the students.

4. Have students make up their own word story problems.

5. Teach money concept by using either real money or play money.

6. Teach time by using real (manipulative clocks) objects.

7. Teach early number skills.

- **Classification and grouping**

  1. *Sorting games*: Give students objects that differ in only one attribute, such as colour or texture, and ask them to sort the objects into two different boxes. For example if the objects differ by colour have students put red items in one box and blue items in another.

  2. *Matching and sorting*: Have the students search through a collection of assorted objects to find a particular type of objects. For example, look in a box of coloured beads or blocks for a red one.

  3. *Recognition of group of objects*: Playing cards, magnetic board, cards with coloured disks, concrete objects (real objects)

- **Ordering**

  1. *Serial order and relationships*: When teaching the concept of ordering ask the students to tell the number that comes after 6 or before 5 or between 2 and 4.

Other quantities can be arranged on other dimensions also like size, weight, intensity, colour, volume etc.

2. *Number lines*: Number lines on the floor for students to walk on are helpful in understanding the symbols and their relationship to one another.

3. *Arranging by size and length*: Have the students compare and contrast objects of different size, formulating concepts of smaller, bigger, taller, and shorter. Make cardboard objects, such as circles, trees, houses etc and have the students arrange the objects by size and then also teach them to estimate whether certain objects would fit into certain spaces.

4. *One-to-one correspondence*: It is called pairing. This is the relationship in which one element of a set is paired with one, element of a second set. Pairing provides a foundation for counting. Have the students arrange a row of pegs in a pegboard to match a pre-prepared row or plan the allocation of materials to the group so that each person receives one object.

- **Counting**

1. *Activities for counting*: Motor activities to help students establish the counting principle include placing a peg in a hole, clipping the cloth pin on a line, stringing beads, clapping three times, jumping four times, and tapping table four times. Use the auditory modality to reinforce visual counting by having students listen to counts of beats with their eyes closed.

2. *Counting cups*: Take a set of containers such as cups, and designate each with numeral. Have the students fill each container with the designated number of items, using objects such as bottle caps, chips, buttons, screws, or washers.

3. *Concept of an empty set (zero)* should be taught in a concrete way by giving number of examples.

- **Recognition of numbers**

1. *Visual recognition of numbers*: This involves recognizing both printed numbers (6, 9, 7) and the words expressing these numbers (six, nine etc). They must also learn to integrate the written form with spoken symbols. Colour cues can also be used to help them recognize the symbols. For example make the top of the number 3 green and the bottom of the number 3 red.

2. *Parking lot poster:* Draw a "parking lot" on a poster, numbering parking spaces with dots instead of numerals. Paint numerals on small cars and have the students park the cars in the correct space.

8. **Teach computation skills**

- *Part-whole concepts*: The idea to teach is that addition and subtraction have a part-whole relationship. You add to find the whole or total of two or more parts, and you subtract from the whole to find the missing part. Use counters or put figures on an overhead projector to demonstrate the part-whole relationship to the entire group.

PART	PART
WHOLE	

- *Basic computation skills*: Many problems in mathematics are due to student's inability to do basic computation skills (addition, subtraction, multiplication, division, fractions, percentage, decimals).

- *Addition*: Teach the meaning of the symbol + (plus or "put together") and = (equals or "the same as"). And explain that addition means part plus part equals whole". Begin by using concrete objects, then use cards with sets that represent numbers, and finally use the number sentence with the numbers alone: 3+2 = ().From this the students can also learn that 2+3 =() ; () +2 = 5; and 3+ () = 5 . Teaching addition using sums between 10 and 20 is more difficult. There are several approaches. It is easier to start with doubles, such as 8+8 = 16. Then ask what 9+8 equals? Is it more than 16?

- *Subtraction*: An important new symbol is – (minus or take away). Use concrete objects to teach the concept of subtraction as in addition. Number line is also useful in subtraction.

- *Multiplication*: The children need to know that multiplication is repeated addition. One way to explain multiplication is the multiplication sentence. (How much are 3 sets of 2? The students can find the total either by counting objects or by adding equal addends. The concept of reversals can also be introduced. The sentence 3×5 = () does not change in the form 5×3 = (--).

- In the equal addend approach the students can use number line for addition as well as for multiplication. The student adds a unit of 5 three times on the number line, to end up at 15 on the line. The rectangular array approach contains an equal number of objects in each row. For example 3×5 is shown as

<div align="center">
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- *Division:* This skill is considered to be the most difficult to learn and teach. To teach division sets can be used: 6 ÷ 3 = (). Draw a set of 6 and enclose three equal sets. The missing factor is seen as 2: The questions to be asked are –how many subsets are there and how many objects are there in each set.

| 0 0 | 0 0 | 0 0 |

The number line can also be used. By jumping back a unit off 3, how many jumps are needed.

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        ⌢       ⌢
   .  .  .  .  .  .
_____
   1  2  3  4  5  6
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The missing factor approach uses known multiplication Facts and reverse the process: $3 \times (--) = 12$. Then to a division sentence: $12 \div 3 = (--)$.

- *Fractions:* Geometric shapes should be used to introduce fractional numbers. In the symbol1 /2 numerator means number of special parts and the denominator means total number of equal parts. Cut shapes out of paper plates.

1							
1/2				1/2			
1/4		1/4		1/4		1/4	
1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/8

- *Subtraction of the 9s from teen numbers*: In the following problem: 16 – 9 = (), adding the 1 and 6 gives the correct answer of 7.This technique works with subtraction from all the teen numbers.

- *Arrangements*: Give the students the number 1,2,3 and ask them in how many ways they can be arranged:1–2–3; 1–3–2; 2–1–3; 2–3–1; 3–1–2; 3–2–1 (3×2×1=6).

Another arrangement puzzle is: If four children are sitting around a square table, in how many ways can they arrange themselves? ($4 \times 3 \times 2 \times 1 = 24$).

- *Puzzle cards* of combination: Make cardboard cards on which problems of addition, subtraction, multiplication, and division are worked. Cut each card in two so that the problem is on one part and the answer is on the other. Each must be cut uniquely so that when the students try to assemble the puzzle, only the correct answer will fit.

- *Playing cards*: An ordinary deck of cards becomes a versatile tool for teaching number concepts. We can teach sequential order by numbers, matching sets of numbers, adding and subtracting with individual cards, and recognizing the number in a set.

- *Number facts: Teaching* number facts $-+1; -1; \times 1; \times 0; +0; -0;$ 1 and 0, addition of same numbers and subtraction of same numbers.

9. **Teaching word story problems**: Points to be kept in mind –

√ Use word problems that are of interest to the students and with in their experience.

√ Pose the problem orally also so that children with reading problems can be helped.

√ Use concrete objects, drawings, graphs, to clarify the problem. Have the students act out the problem.

√ Have students substitute smaller and easier numbers for problems with larger or complex numbers so that they can understand the problem and verify the solutions easily.

√ Have the students restate the problem in their own words. This will help the student to structure the problem for him or herself and also show whether they understand the problem.

√ Steps in solving the word problem:

   o   Have the students read or hear the problem and relate the setting of the problem.

   o   Have them decide what is to be discovered-what is the problem to be solved.

   o   Ask the students to read the problem aloud and then list the relevant and irrelevant data.

   o   Help the students analyze the relationship among the data and must decide which computational process to be used...Key words like total, or in all, which suggest addition and left, or remains, which suggest subtraction should be known.

   o   A lot of opportunity for practice and generalization should be given.

√ *Time:* Real clocks or teacher made clocks are needed to teach this skill. The sequence of teaching must be the hour (1.00), the half hour (4.30), the quarter hour (7.15).

Five-minute interval, before and after the hour, minute interval, and seconds. Use T.V schedules of program and classroom activities and relate them to clock time.

√ *Money:* The use of real money and in a life like situation is the best way to learn the concept. Have them play store, make changes, or order meal and then add up the cost and pay for it.

Check Your Progress

Notes : a) Space is given below for your answer.

b) Compare your answer with the one given at the end of this unit.

E3. Enlist the steps to teach the word problems.

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E4. Characteristics of learning disabilities can affect learning of math. Do you agree? Enlist the factors contributing to the mathematics disability.

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5.8   UNIT SUMMARY

From the above discussion it is evident that there are many techniques which a teacher/instructor can utilize in a regular classroom. Accommodating a child with special needs doesn't necessarily have to be done on one-on-one basis. Once the area(s) of concern is/are identified the teacher should use the mentioned strategies within the classroom to help the concerned child. The best feature of all these strategies is that these help ALL children in the classroom. Using these techniques and strategies will enhance the skills of all children in the class. So you can say without doubt that the poor reader becomes better and the average reader becomes fluent.

5.9   GLOSSARY

One-on-one	:	A session where there is one teacher and one student
Pre-reading skills	:	Skills which are needed for effective reading to develop
Phonemes	:	Smallest unit of sound which can not be broken down further
Vital	:	Important
Verbalise	:	Say it aloud
Affinities	:	Likes of a person
Role model	:	Persons we see and learn from
Auditory perception	:	To interpret information we hear
Visual memory	:	To remember what we see
Multisensory	:	Using more than one sense in order to learn
Imagery	:	Forming a mental picture (picture in the mind)
Mastery	:	To be able to do a skill in the perfect manner

ANSWERS TO CHECK YOUR PROGRESS

E1. The important teaching strategies are:

   i) Developing understanding of spatial relationship such as up, down, top,

     bottom etc.

  ii) Developing motor coordination like handling, twisting, grasping,

    clutching or squeezing etc.

E2. Sequence of teaching handwriting skills are

   i) Appropriate seating position

  ii) Correct positioning of paper

 iii) Right grip of pencil

 iv) Use of the concept of tracing

  v) Promoting verbal cues.

E3. Steps to teach word problems are; i) identify words that are interest to child, ii) Use concrete object for each word, iii) Draw pcture on the board, iv) Ask children to read the problem, iv) list the relevant data, and v) help children analyse the relationship among data.

E4. Characteristics of learning disability certainly affect learning of Mathematics.

   Important factors contributing to the Mathematics disability are:

  i) Lack of learning readiness

  ii) Inadequate and improper instructions

  iii) Problems in reading

 iv) Difficulty in processing of information.

5.11   ASSIGNMENTS

Q1.   What strategies will you use in a classroom for children with

- Reading difficulties
- Spelling difficulties
- Comprehension difficulties
- Listening and speaking difficulties

5.12   REFERENCES

1. Learning Disabilities and Related Disorders: Janet Lerner (10th Edition)

2. Learning and Learning Difficulties; A Handbook for Teachers: Peter West.

UNIT 6 TEACHING LEARNING STRATEGII AND MATERIAL-II

Structure

6.1   INTRODUCTION

The teaching learning strategies and material has great importance for teaching of the children with learning disabilities. The teaching learning strategies may include some general strategies and some specific strategies. The general strategies include task analysis and structure lesson presentation. In task analysis the objective should be clearly stated and in structure lesson presentation, the lesson to be taught to the student must be well sequenced and well organized. The teacher must properly organize the equipment and material needed before starting a lesson. The specific strategies involve the use of method which can help in correcting the students spoken, written languages and word identification. The objectives of these strategies are to raise the student's level of reading to that of the other students in the class. Apart from this, the children with writing problem require the use of some special methods which can help in improving there writing. Several remedial methods have been designed such as cover-write method, imitation method etc. for students with writing problems.

The children with learning disabilities need concrete teaching learning materials basically prepared by the teacher depending on the individual needs of the learner. The aim is to use teaching learning material to teach children with learning disabilities so that s/he can learn concept more effectively. Some of the teaching learning materials for learning disabilities are: Self learning cards, Picture cards, Magazines / Newspapers / Calendars / Posters / Puzzles / Riddles, Community made dolls / Toys / Puppets, Models, Raised letters / Numbers, Concrete objects (beads / buttons), Colours, Word building / Word concepts, Flash cards, Stencils, Picture arrangement cards, Masks, Banners, Fixing blocks, Play-way kit,

Maps / Globes, Worksheets / Workbooks, A pencil grip, Education games and toys. This unit will give broad overview of teaching and learning strategies for learning disabilities and also about some basic ideas about the teaching learning materials used for implementing those strategies.

6.2 OBJECTIVES

After reading this unit, you will be able to:

- define teaching learning strategies;
- explain various form of teaching learning strategies; and
- describe the use of teaching learning material for teaching learning with disabilities.

6.3 WRITTEN EXPRESSION

Written expression is an important skill to internalize especially in school. Most of the evaluations and feedback is based on writing competency of the student. However, there are many children who might not have the skill to express their thoughts in an appropriate manner. These children might be capable of expressing their thoughts orally but writing them down on paper might be a huge challenge. As teachers you have to make a conscious effort to not only identify such children but also help them learn to become competent writers. It is of vital importance to accommodate such children especially during exam time, that is use alternative means of evaluating the child's knowledge base.

Strategies Written Expression (Bossand Vaughan 1998)

1. **Provide opportunities for sustained writing:** Student writers need sufficient time to think, reflect, write and rewrite. The fact is that many students spend less than 10 minutes per day composing. It is recommended that composing time be extended to fifty minutes each day, about three to four days a week. Break the writing time into several parts for some students.

2. **Establish a writing community:** The atmosphere of the writing classroom should foster writing activities and encourage co-operative writing work. Teachers can also use individual writing folders containing the student's current writing projects, a list of finished pieces, ideas for future topics and materials such as spelling dictionaries.

3. **Allow students to choose their own topics:** Writing projects are most successful when students have a personal interest in the subject.

4. **Model the writing process and strategic thinking:** The act of writing is encouraged when teachers and peers model the writing process involved in writing. For example, the teacher should model (demonstrate) the writing stages by thinking aloud; "I want to plan a fun setting for my story. What about a circus?"

5. **Develop a sense of audience:** Usually in the traditional writing curriculum the students write for the teacher. Teachers can expand the student's sense of audience by putting the work on soft boards, and publish in school magazines.

6. **Take advantage of the current student interests:** Teachers should be aware of students' interests and be on alert for the relevant events that can become subject of writing. Interests in Sports, news, trips, family holidays offer subjects for writing.

7. **Avoid strict grading:** Do not allow marking practices to discourage students. Consider marking only ideas not the technical skill, or give two marks- one for idea and one for skill.

8. **Provide lots of input:** Before writing make sure that students have had enough first hand experiences such as strips, creative activities or watching television shows, movies, sports events that can be drawn upon for writing material.

9. **Use the cloze procedure:** write a sentence with a word deleted and have the students try to insert as many different words as possible. For example, "Raju _____ the ball." Sentences can be taken from reading material.

6.4   ORGANIZATION

Rajat always seems "careless", "thoughtless", "passive". He seldom had the required materials (paper and pencil), home work was never given on time and many a times home work did not get recorded in the diary, His work was incomplete because he exhibited difficulty copying from the board on to his notebook. Lack of planning and preparation for class seemed to be his every day habit and he was very impulsive.

Do You Know Why?

Children with learning disabilities and difficulties are challenged in their daily lives with weakness in organization. It is common for students to be unprepared for class…for example – frequently losing or misplacing papers, leaving needed books and completed class work at home and is often late in their submissions. This is because the management function of the brain is not functioning effectively. The self regulatory behaviour, self direction, goal directed behaviour and control processes like organization, focus and activation which enable us to perform both routine and creative work are affected. These then get manifested as:

- Forgetfulness
- Delay in getting activated and getting started on tasks
- Difficulty in sustaining attention, alertness and effort.
- Poor general self management and ability to work towards goals.

Strategies for Building Organization Skills

- Organize the class room with clearly labelled shelves, files, and bins so that the student knows the exact location of things and can easily locate them.

- Clearly identify certain places in the room where students can leave their assignments and or store unfinished work.

- At home choose a place for home work which is the study area and has good lighting, is comfortable for working and is free from distractions.

- DO not clutters be there on the desk when the student is ready to work?

- Colours coordinate by subject to make location of subject material easier and quicker. For example, the science textbook is covered with yellow paper and the English with green.

- Teacher must prepare important hand outs in different colour or use different paper. For example. Spelling list in pink; math formulae in blue etc.

- Use of visual / pictorial hints for showing expected materials, daily routines and schedule.

- Writing notes and messages as reminders on coloured paper and stuck on mirrors, doors, and other places the child can see.

- Colour code entries on the calendar (school related, sports related or social activities.)

- Attach a pencil to the child's desk either with a velcro or a string.

- Teachers must convey their expectations for materials that the students should have with them in class all times (sharpened pencils, erasers, note books). Allow for natural consequence of not having the need materials. Don't reinforce poor.

- Study habit and "reward" students who are unprepared by giving them or loaning them new material.

- Teachers must keep spare supplies so that time is not wasted in borrowing and searching around.

- Each school day must begin and end with a 5-10 minutes of organizational session. The time may be used to clean out desk, bag, ensure home work has been recorded and home work material has been taken.

- Attach a list to the storage area for each child so they know the specific material needed to be stored.

- Teach and provide models for organizing paper (for example, headings, margins and spacing).

- If student has trouble remembering to bring books to and from school then keep a second set of books to keep at home.

- Label all supplies and material with student name.

- Parents must remove from the childs bag unnecessary items (for example toys) which could be distraction.

- Help the child to organize and clean the bag, room, desk at home. Offer a reward for organizing material and putting away things in place both at school and home.

- Avoid the early morning rush and stress by developing the routine of the child getting as much as possible organized and ready for school the night before.

- Parents must keep the bag in the same spot every night.

- Teach to plan and prioritize activities.

- Making a schedule and following it.

- Breaking down and systematically tackling.

- Teach standards of acceptable work.

Check Your Progress

Notes : a) Space is given below for your answer.

b) Compare your answer with the one given at the end of this unit.

E1. Enlist the strategies using colors for building organization skills.

....

....

....

E2. What are the strategies for structuring the classrooms?

....

....

....

6.5   SOCIAL COGNITION

Suman is unable to make friends because she does not pick up social cues from watching others. And has a lot of difficulty reading body language and assessing the facial expressions and so gets impulsive without recognizing consequences. Others feel she is insensitive and

has no concern for others. All this happens because she is unable to evaluate and adjust her behaviours in different situations.

Do You Know Why?

Deficits in social skills, which are the skills necessary to meet the basic social demands of every day life, are probably the most difficult type of problem that a student can have. Lack of social cognition affects almost every aspect of life-at school, at home, and at play. Many students with LD have poor social cognition, so poor social skills. They lack sensitivity to others, have poor perception of social situations and suffer social rejection. These children perform poorly in the kinds of social activities expected of children of the same age. They tend to display inappropriate behaviour, make inappropriate remarks are unable to disagree with others in acceptable way. So they have difficulty making friends.

Strategies to Develop Social Competencies

Students with social deficits need conscious effort and specific teaching to learn, about the social world, its nuances and its silent language. The activities to be taught are in the categories of self perception, sensitivity to others, social maturity, and social skills.

Self Perception

1. **Awareness of body parts:** Have the student locate the parts of the body on the doll, on a class mate and on themselves. Make a cardboard person with movable limbs. Put the card board person in various position and have the students duplicate the positions.

2. **Completing pictures:** Have the students complete a partially drawn figure or tell what is missing in an incomplete picture.

3. **Scrapbooks:** Help the students put together scrap book about themselves. The students should include pictures of themselves at different stages of of growth ,pictures of their families, list of their likes and dislikes, anecdotes about their past, accounts of trips,

4. **Emotional awareness:** Encourage the students to identify and name emotions that are appropriate for a particular.

Sensitivity to Other People

1. **Picture of faces:** Collect pictures of faces and have the students ascertain whether the faces convey the emotion of happiness or sadness. Other emotions to shown include anger, surprise, pain, and love.

2. **Gestures:** Discuss the meaning of various gestures with the students such as waving goodbye, shaking a finger, shrugging a shoulder, turning away, tapping a finger or foot and stretching out arms.

3. **Video CD's and story situations:** Find pictures, short videos, or story situation in which the social implication of gesture, space, and time are presented, and help the students to identify the emotional content of communication.

4. **What the voice tells:** Help the students learn to recognize implication in the in the human voice, beyond the words themselves, by having the students listen to voice on a tape recorder to determine the mood of the speaker and to decipher the communication beyond the words. Role playing with different emotions is also effective.

Social Maturity

1. **Anticipating consequences of social acts:** Role playing, creative play, stories, and discussion can help the students to see what happens if the rules of a game or the rules of manners are broken. Help the students predict the endings or the next events in stories and literature.

2. **Establishing independence:** Encourage the students to make simple maps including the directions to follow and talk about the various steps to take in getting to the desired location. Plan activities that provide opportunities for the student to talk to other people, to ask directions, interview others and so on.

3. **Making ethical judgements:** Help the students learn cultural values and learn to make value judgement. For example, the students can discuss and analyze age appropriate dilemmas and situations that involve acts such as telling lies, stealing, and protecting a friend.

4. **Planning and implementing:** Have the students make plans for a trip, activity, party, picnic, or meeting. Then, help the students' success fully implement the plans to gain a sense of independence and maturity.

Learning Strategies for Social Skills

1. Teach students to stop think before responding

2. To verbalize and rehearse social responses.

3. To visualize and imagine the effect of their behaviour.

4. To pre-plan social action.

5. *Judging behaviours in stories:* Read or tell an incomplete story that involves social judgment. Have the students anticipate the ending or complete the story.

6. *Grasp through social situations pictures:* A series of pictures can be arranged to tell a story that involves social situation. Have the students arrange the pictures and explain the story.

7. *Learning to generalize newly acquired social behaviour:* After the students learn socially appropriate behaviour, they must learn to generalize these behaviours to many settings like school, home, social situations.

8. *Learning conversation skills:* The students must learn to extend greetings, introduce themselves, find a topic to talk about, listen actively, ask and answer questions and say good bye.

9. *Friendship skills:* Students must learn how to make friends, give a compliment, join group activities and accept thanks.

Check Your Progress

Notes : a) Space is given below for your answer.

b) Compare your answer with the one given at the end of this unit.

E3. What is social cognition?

....

....

....

E4. Enlist the areas for training for development of social cognition.

....

....

....

6.6   STRATEGIES FOR ADD/ADHD

The following strategies will be beneficial for children with attention deficits. However keep in mind the symptoms exhibited by the child before you chalk out his/her remedial plan.

1. Use of concise and clear instructions. Encourage students to repeat the task requirement back to the teacher to ensure their understanding of the instructions.

2. Break the task into smaller manageable short parts.

3. Try to avoid repetitive and monotonous tasks.

4. Focus on positive desirable outcomes instead of negative unwanted behaviour. For example, praise the child for sitting for even a minute and writing rather than scolding him/her for running around in the class.

5. Ask for positive behaviour instead of absence of certain behaviour. For example, say "sit and play" instead of "don't run".

6. Keep the negative consequences very specific and very much visible at all times. For example, write on a chart paper that consequence of running around in the class means no playing in the break.

7. Preview the tasks to ensure s/he knows what is expected out of them.

8. Interact with the child in a calm and a quiet manner.

9. Let the child tape record some of the lessons/notes and present their work in a different way. For example, make a visual presentation instead of writing answers.

10. Allow the child to work in small groups instead of individual work.

6.7   UNIT SUMMARY

From the above information most of you must have identified some strategies you may have already been using and some which would be effective for students in your classroom. Needless to say that each child's strengths and weaknesses are different and the same strategy might not work with all children. Best would be for you to go through each and every strategies and understand what the pre-requisite skills needed. Once you have that information it will be easy for you to choose the most effective strategy for the different children who might have academic difficulties in your classroom.

6.8   GLOSSARY

Internalize   :   To master a task.

Competent   :   To become very good at doing a task.

Sustained   :   Over a period of time.

Composing   :   Writing or making.

Writing community   :   A group of individuals writing.

Pre-requisite   :   Something required before to undertake a task.

6.9   ANSWERS TO CHECK YOUR PROGRESS

E1. The important strategies using colours for building organisation skills are;

- Colours coordinated by subjects

- Preparation of important handouts in different colours

- Reminders in coloured papers

- Colour code entries in the calendar

E2. Strategies for structuring the classroom to facilitate learning of children

with learning disabilities are:

- Organise classroom with clearly labelled shelves, files and bins

- Identify separate places for keeping assignments and other unfinished work

- Attach pencil and other material with child's desk

E3. Art of making friends with others is called social cognition. It requires reading body languages and assessing facial expressions of others. This helps an individual for developing concerns for other.

E4. The important areas of training for developing social cognition are:

- Verbalise and rehearse social responses

- Skills of developing conversation

- Developing peer relationships

- Art of developing social behaviour.

6.10   ASSIGNMENTS

Q1.   Write a remedial plan for a child in your class who has problems with written expression. Mention the Learning style of the child and incorporate his strengths to alleviate his weaknesses.

Q2.   A bright child of class five has severe attention problems. The complaint being that he is so distracted and over active that his schools work suffers. How will you plan his remedial intervention?

6.11   REFERENCES

2.   Learning Disabilities and Related Disorders; Janet Lerner.

3.   Learning and Learning Difficulties; A Handbook for Teachers by Peter Westwood.

4.   Unit 7; Senco Distance Learning Course Module; Orkids.

UNIT 7 SUPPORTIVE INTERVENTIONS

Structure

7.1   INTRODUCTION

In the previous chapter you have learned about various teaching learning strategies and materials required for teaching the children having learning disability. In this unit you will learn about the co-curricular activities like drawing and painting, drama, music, art and crafts etc. and their significance in remediating educational problems of children with learning disabilities. Other supportive interventions mainly occupational therapy, speech and language therapy and behaviour modification are also included in this unit. Occupational therapy plays an important role in establishing motor coordination along with psychological, social and cognitive intactness and their balanced integration within the child with learning disability, whereas the speech and language therapy helps in remediating speech and language related

problems. A systematic behaviour modification programme works as a double edged sword in decreasing the problem behaviour as well as increasing the skill behaviours of the children.

7.2   OBJECTIVES

After reading this unit, you will be able to:

- plan the suitable co-curricular activities required for children with learning disability;
- explain the role of occupational therapy and plan out basic activities under occupational therapy programme for children with learning disabilities;
- describe the role of speech and language therapy and plan out basic activities under speech and language therapy programme for children with learning disabilities; and
- explain the functions of targeted problem behaviours and plan a behaviour modification programme for children with learning disabilities.

7.3   SIGNIFICANCE OF CO-CURRICULAR ACTIVITIES

Co-curricular activities foster changes in attitude, appreciations, knowledge, skills, and behaviour patterns of children as well as the parents and teachers. These activities help the children to re-examine their own potential, develop motivation and skills to participate and formulate new perspectives about learning environments. The three main areas of development facilitated through co-curricular activities are a) Physical, motor and perceptual development, b) behaviour, personality and affective development, c) intellectual, cognitive and language development. These activities not only help to develop individual potentials and talent, but enhance learning of academic concepts too. Co-curricular activities such as music and dance, crafts, sports, games, other physical exercises and yogas are now being included in the regular timetable. In the schools, trained teachers in each one of these areas are appointed and children are given a choice to pursue the activity of their interest. These activities are interesting, fun to do and experimental in nature. It makes the learning enjoyable, and there are ample opportunities to enhance children skills in language, motor abilities and socialization.

7.3.1 Needs of Children having Learning Disability with Respect to Co-curricular Activities

1. These children follow a similar developmental pattern as their peers but face difficulties in learning and may not achieve at levels commensurate with their peers. So, they need appropriate instructional strategies both for curricular and co-curricular activities.

2. The range of individual abilities and interests for various co-curricular activities among these children is often inconspicuous in nature, which needs to be identified through explorations.

3. They manifest a variety of difficulties that require extensive instructional assistance from professional experts.

4. The complex skills, which are taught in structured settings, are often found difficult by them to perform in natural settings. They need training for transferring of skills.

5. They need to acquire variety of skills, values and attitudes in order to interact effectively in a variety of settings and with a variety of people. Creativity, productivity, adaptability and compatibility are the main ingredients towards development of these, trait and skills.

6. The coordination among cognitive, affective and psychomotor functioning in children with learning disability are affected which needs to be intervened through a variety of activities.

7. Because of their learning disability, greater attention is required for skill development having specificity and preciseness.

7.3.2 Developing Talent in Children with Learning Disabilities

• Co-curricular activities prepare for all children including all ages, grades and levels of functioning through incorporation of all basic underlying concepts and co-curricular activities i.e. knowledge and awareness, activities and skills, values and attitudes.

• Co-curricular activities are concerned with the learning experiences and achievements both as an end and means of developing sense of self worth, fostering creative and expressive behaviour, and facilitating personal growth and realization of talents and potential.

• Inclusion of co-curricular activities in regular education especially for children with learning disabilities is most beneficial when done developmentally. Gradual exposure to concepts, information and experiences help children to make rational, positive choices about what activities. How to develop patterns of involvement? How to use these activities? Expand interests, which will result in lasting satisfaction.

• Children with learning disabilities often doubt their ability and therefore lower their expectations of themselves. A negative self-appraisal creates problems in these children. Direct contact and frequent interaction with peers through participation in co-curricular activities can stimulate the formation of more positive attitude.

• As children with learning disabilities demonstrate their autonomy and competence in co-curricular activities comparatively, and become more comfortable with their peers and teachers reflecting a new acceptance and understanding of individual learning styles, interests and needs, which form the basis for interaction.

• Satisfying experiences through involvement in co-curricular activities contribute to physical, emotional and social health of children with learning disabilities and help to bring positive behaviour and attitudinal change. Significant learning about self, others and academic subjects areas can make place during non-classroom experiences.

- These activities contain cognitive, affective and motor elements and provide an infinite variety of sensory stimuli, relaxation, enjoyment and pleasure experiences which may encourage greater educational achievement and higher level of performance in life activities.

- Co-curricular activities is recognized as an integral component of the educational programme which stimulates the development of varied interests and abilities in curriculum content areas and associated participatory learning experiences. Incorporation of co-curricular activities, concepts and opportunities for exploring activities balances the vocational components of curricula and broadens the scope of instruction.

- The school, therefore, must provide a comprehensive and long term programme of training for children with learning disability. Learning how to find enjoyment and meaning during co-curricular activities is an important part of a total education programme as learning how to read, calculate, and interact socially. Increased emphasis upon co-curricular activities may create renewed interest in such field as physical education, art, music, dance and humanities.

Some exemplary co-curricular activities are art activities such as drawing and painting, music activities, dance activities, drama activities, sculpture and carving activities; sports activities such as cycling, physical sports, athletics, basketball, football, tennis, volleyball etc.; national popular sports such as cricket, football, volleyball, kabbadi, badminton, table tennis etc.; yogasanas such as pranayama, uttanasana, tarasana, chakravakasana, paschinotanasana, trikonasana, dhanurasana, vajrasana, adhomnkhasana, bhiyangasana, shavasana etc.; and craft activities such as decorating activities, interlacing and interlocking crafts, paper crafts, handiwork activities, leather and textile crafts, wood and metal working activities, toy, model and kit assembly etc.

Check Your Progress

Notes : a) Space is given below for your answer.

b) Compare your answer with the one given at the end of this unit.

E1. What are the three main areas of development facilitated through co-curricular activities?

i) ....

ii) ....

iii) ....

E2. Fill in the blanks:

i) Children with learning disability follow a .... developmental pattern as their peers.

ii) A .... self-appraisal creates problems in these children. Involvement in co-curricular activities bring .... behaviour and attitudinal change.

iii) Co-curricular activities contain ...., ... and .... elements and provide an infinite variety of sensory stimuli, relaxation, enjoyment and pleasure experiences.

iv) Co-curricular activities are recognized as .... component of the educational programme.

7.4 OCCUPATIONAL THERAPY / SENSORY INTEGRATION THERAPY

Occupational therapy is a method of treatment for which the primary area of concern is the individual's ability to perform functions required in day-to-day life. This method of intervention is also concerned with the social, psychological and cognitive development of the individual. The term occupational represents the concept of 'pursuit, participation or being engaged in an activity. Occupational therapy is the art and science of directing man' participation in selected tasks to restore, reinforce and enhance the performance, facilitate learning of those skills and functions essential for adaptations and productivity to diminish or correct pathology and to promote and maintain health.

7.4.1 Sensory-Perceptual-Motor Skills

Perception is a vital link between the environment and the individual. An individual has to receive, interpret, and use the information which it receives from the environment. Receipt and use of information is done by sensory-motor and cognitive processes. The intermediate function of interpretation is done by perceptual-motor process.

7.4.2 The Sensory Process

In order to receive information present in the environment human being is provided with sense organs. Each sense organ is specialised to receive a specific physical force and transmit it to the central nervous system for further action. This process of receiving information in the form of its respective force and transmitting the same to the central nervous system in the

form of electrical transmission is the sensory process. The human sense organs, their respective sensations and the physical force which they are compatible, are listed below:

Sense organ	Sensation	Force
Eye	Visual sensation	Light rays
Ear	Auditory sensation	Sound waves
Nose	Olfactory sensation	Chemical vapours
Tongue	Gustatory sensation	Chemical vapours
Skin	Touch and tactile sensation	Mechanical friction
Vestibular apparatus	Vestibular sensation	Gravitational pull
Muscle spindle	Proprioceptive sensation	Mechanical pull
Joint	Kinaesthetic sensation	Mechanical pull and pressure
Intero-receptor	Visceral sensation	Mechanical pressure

7.4.3   Perceptual-Motor Process and Learning

Perceptual-motor process plays a crucial role in cognition and learning. Cognitive development, (concept formation) and learning (permanent change in behaviour) are parallel, simultaneous processes which are complementary to each other. Learning is preceded by sensory integration, percept formation and concept formation. Any dysfunction or deficit in perceptual motor activities ultimately effects learning. Children with learning disability manifest motor, perceptual-motor and cognitive disorganization with underlying problems in sensory integration and perceptual motor process. In most children a multitude of perceptual-motor dysfunctions exist. For example, ability in spelling is deemed as a perceptual-motor function, which is actually application of matching a phonetic symbol with graphic symbol.

7.4.4   Classification of Perceptual Motor Dysfunctions

Classification of perceptual motor dysfunctions commonly observed in children with learning disabilities is listed below:

1. **Touch / tactile perception:** dysfunction relating to discriminating and matching temperature and texture.

2. **Auditory perception:** dysfunction relating to discriminating and matching tone and sound, auditory-motor incordination, dysfunction relating to locating sound source, dysfunction relating to sequencing and continuity of sound.
3. **Visual perception:** visuo-motor incordination, dysfunction relating to discriminating figure and ground, dysfunction relating to matching form constancy, dysfunction in determining position in space, dysfunction in determining spatial relationship.
4. **Vestibular perception:** dysfunction in perceiving body's position in space and spatial relationship between body and other objects in space.
5. **Kinaesthetic perception:** dysfunction in coordinating body movements (actions, postures, locomotions).
6. **Touch perception and proprioceptive perception (stereognosis):** dysfunction relating to discriminating and matching objects by feeling it with the hand (astereognosis).
7. **Auditory and visual perception:** dysfunction relating to discriminating and matching phonemic and graphic information.
8. **Visual and kinaesthetic perception (praxis):** dysfunction relating to parts of a structure and inter-relation of the position of the parts (apraxia).
9. **Vestibular, tactile, proprioceptive and kinaesthetic perception:** dysfunction relating to perceiving speed of one's body's movements in space.
10. **Vestibular, visual and auditory perception:** dysfunction relating to perceiving speed of an object moving in a space.
11. **Touch and tactile, proprioceptive kinaesthetic, vestibular and visual perception:** dysfunction relating to body awareness, body-part awareness, body image, laterality, directionality, cerebral dominance, mid-line crossing.

In summary, the identified dysfunctions in children with learning disability are difficulty in performing skills not previously mastered, where motor planning is required. Sensory processing deficits are observed along with generally poor coordination, accident proneness, and disorganized movement. The child exhibits excessive concentration when approaching a new skill. Inefficiency and awkwardness of movements are noted. Emotionally instability, easily frustrated and appears to have an unwillingness to change are commonly seen. Generally normal onsets of developmental motor milestones are reported, but there is delay in acquisition of skills such as dressing and appropriate manipulation of toys (blocks, puzzles, etc.). Deficient skills are also noted.

7.4.5 Occupational Therapy for Perceptual Motor Dysfunctions

The therapy programme is centred around the dysfunction if it is causing a problem in terms of motor and cognitive organization. The therapy programme proceeds in following stages:

1. **Sensory stimulation** is given through discriminatory activities in visual, auditory and tactile senses, visual, auditory and kinaesthetic tracking of objects in the environment. Movement in slow, gradual ranges using calm, rhythmic input, for example, child is rocked over ball, or rides pendulum swing while his feet touch the floor, proprioceptive

input through resisted activities, joint compression, and traction working against firm object or gravity, pressure touch given manually.

2. **Motor planning** demands attention that enables the brain to direct movements in a specific manner. When a new or unfamiliar aspect of a learned skill is presented, motor planning is generally required in order to deal effectively with that aspect and complete the task. For example, the child may learn to skip a rope with practice and become quite efficient at it. Introducing some change, such as skipping rope backward, requires the programming of some different actions and demands attention and concentration in order to learn the task.

3. **Sensory integration training** is given through linear *vestibular input* like prone forward motion in hammock or inflated ball, *proprioceptive input* applied through resistance, compression and traction like quadruped position on firm surface pushing forward against moderately firm surface, positioning in seat or prone position in hammock, seated movement on carpeted barrel etc., *vestibular processing* by activities like swinging the child on platform in prone, supine, seated and puppy position, tilting on a firm surface in quadruped, kneeling and in standing position, making the child to slide down on a metal disc on inclined plane facing forward, backward and sideways in sitting, puppy and standing position, walking on a straight line balancing book on head, walking on balance beam etc.

4. **Perceptual-motor training** is given through activities for matching similar stimuli, sorting and separating dissimilar stimuli, classifying stimulus information, body awareness, body image, laterality, drills regarding form constancy and figure-ground discrimination, coordination by feedback exercises, space orientation activities (trampoline, hammock, jungle gyms), midline crossing, praxis, stereognosis, motor planning.

Check Your Progress

Notes : a) Space is given below for your answer.

b) Compare your answer with the one given at the end of this unit.

E3. Match the followings:

i)	Discriminating temperature and texture.	(a)	Proprioceptive sensation
ii)	Visual and kinaesthetic perception	(b)	Gravitational pull
iii)	Permanent change in behaviour	(c)	Stereognosis
iv)	Muscle spindle	(d)	Praxis
v)	Touch perception and proprioceptive perception	(e)	Learning
vi)	Vestibular sensation	(f)	Tactile perception

E4. Fill in the blanks:

i) Children with learning disability manifest ...., ... and .... disorganization with underlying problems in sensory integration and perceptual motor process.

ii) .... demands attention that enables the brain to direct movements in a specific manner.

iii) Dysfunction relating to discriminating and matching phonemic and graphic information is ....

iv) .... requires participation in activities to restore, reinforce and enhance one's performance, facilitate learning of skills and functions to correct pathology and to promote and maintain health.

v) .... is given through discriminatory activities in visual, auditory and tactile senses, visual, auditory and kinaesthetic tracking of objects in the environment.

7.5 SPEECH AND LANGUAGE THERAPY

Speech and language therapy is a remedial intervention programme to improve the existing communicative behaviour and facilitate learning of new communication behaviours by rearranging and manipulating the factors facilitating the language and communication acquisition.

A language is a code where by ideas about the world is represented through a set of arbitrary signals (mainly conventional system) used by a group of people for the purpose of communication. Language is the main vehicle for communication.

Language has various components like form, content and use. Forms of language include phonology – the speech sounds, morphology-rules of speech sounds to form words, syntax-grammar of the language. Content includes semantic-meaning aspects of language and use includes pragmatic-application of language in different circumstances. If a person needs to say something, he selects suitable words to express the idea (semantic), arrange the words in a particular order (syntax) and decide how these words and sentences should be said in a particular situation (pragmatic). Once these tasks are completed the brain orders, the muscles of organs of speech production occur.

Speech is the most efficient and frequently used mode of language expression, comprising of a set of verbal codes (spoken words). We communicate to satisfy our needs which keep on changing from time to time. We get information; interact with people and so on. Communication is an active and intentional process, the speaker intentionally transmits information (message) and the listener intentionally receives it and subsequently they may exchange their roles. It is also possible to communicate without intending to do so. Eg. displeasure, which we want to hide, gets expressed through eyes, body postures and tone etc. Communication can be made through different modes such as speaking, reading, writing, gestures, facial expression dance, drama, physical touch etc.

7.5.1 Some Pre-requisite Abilities and their Deficiency in Children with Learning Disability

In order to learn and use language to communicate, the individual needs to have some pre-requisites abilities like *sensory abilities, motor abilities, speech production mechanism, processing skills, stimulating environment* and *means of communication.* Many of these prerequisites are deficient in children with learning disabilities particularly, sensory-motor and processing skills, due to which these children show problems in expression and comprehension of language. They present difficulties in cognitive aspects (processing skills) such as sustaining attention, attaching meaning to inputs, memorizing the symbols, interpreting the message, programming of speech sound production and then sequencing output to produce word and sentences. Sometimes, the child with learning disability may not get enough opportunities for communication and even the stimulating environment for language input.

7.5.2   Speech and Language Problems in Children with Learning Disabilities

Speech and language are accepted as normal if they resemble the speech and language of majority of people of same environment, culture, age, sex, socio-economic conditions and educational background. A majority of children develop speech and language normally, however, some children fail to join the majority.

Abnormal speech and language: Speech and language are considered to be abnormal when they are so different from speech and language of other people, that they catch attention and/or interfere with communication. That is, speech and language are defective when they are difficult to understand or unpleasant and may have errors in any one of the following areas:

1. *Language problems (difficulties in understanding and expressing symbols):*

   In children with learning disability language problems may be seen in both aspects of comprehension and expression. The problems in both areas may be of different severities and ranges. No two children have exactly similar problem. Some of the common problems are as follows:

   • Problems in expression

     Some children with learning disability seem to be speaking excessively which is perceived as a problem by parents. Here, the main problem may be in understanding meanings (semantic difficulties). They have problems in asking questions using negative and complex sentences. They fail to describe events or actions; asking for information, describing needs, requesting for clarification, telling lies, jokes and so on. In spite of knowing what to communicate, a child with learning disability may find it difficult to participate in a conversation. These problems can be grouped under pragmatic aspects.

   • Problems in comprehension

     Children with learning disability may not understand some aspects of vocabulary such as noun modifiers, and verb modifiers. Difficulties in comprehending question forms and following a series of commands are also seen in them. Comprehending abstract or imaginative vocabulary is generally poor. Difficulties in understanding indirect questions, ambiguous statements, quiz questions, riddles, jokes, and humours are also found in children with learning disability. Multi-step instructions and commands may prove difficult for these children to comply with.

2. *Articulation problems (difficulties in speech sound production):*

   There are two kinds of problems with speech sound production or phonology part of language. Sometimes phonemes are inconsistently produced i.e. the phoneme is produced correctly in some words but not in all words. Many times, phonemes are not acquired at all. Some children with learning disability speak unintelligible sentences and

phrases. The major contributor for unintelligibility is the defective articulation. Many a times the sound production in isolation may not be defective but when saying in words and sentences (i.e. co articulation) or in running speech it lacks clarity.

Not all the times, improper production of phonemes is the only cause for clarity problems. If a child does not use proper stress on words and proper words on the sentences, clarity will suffer. These aspects *'stress and intonation'*, which are known as *'suprasegmental features'* are main cause of pleasant speech. Many children show problems in using appropriate *suprasegmental feature* resulting in monotonous and unintelligible speech.

3. *Voice problems (abnormalities in pitch, loudness and quality of the voice):*

Voice problems affect intelligibility further. The common voice problem is the feeble or weak voice, which is not loud enough to be heard clearly. Misarticulated speech along with these other factors affects the intelligibility of speech severely. Breaks in voice pitch and monotonous voice also pose difficulties in speech clarity.

4. *Fluency problems (problems in smooth flow of speech utterances):*

The intelligibility in speech suffers also because of the defects in fluency or rhythm. Speech is characterized by hesitations, pauses, repetitions etc. As a result, speech is not fluent and rhythm suffers and in totality, the intelligibility of speech suffers. Child with learning disability due to their fluency problems and blocks in communication, are noticed as a hesitant speaker which may further create psychological problems in them.

5. *Other problems*

Some children with learning disability are poor listeners, although hear well, that mean they may have difficulty in locating from where the sound is coming, have difficulties in differentiating sound pattern; problems in attaching meaning to the sounds and words heard and so on. These children are also poor in their reading and writing skills. These problems are heavily dependent on the language development.

Geetha and Prema (2007) proposed to classify the Delayed Language Disorders (DLD) with respect to the affected modalities are as follows:

	Delayed Language Disorders (DLD)	**Modalities affected**
I	Phonological disorder	Comprehension
II	Syntactic disorder	Expression
III	Semantic disorder	Verbal

IV	Pragmatic disorder	Gestural
V	Behavioural disorder – Linguistic/ Non-linguistic	Reading Writing
VI	Mixed disorder	Spelling

7.5.3 Language and Communication Training

Language and communication training can also be done more effectively by teachers and parents who are in contact with the child's daily life with assistance from a speech pathologist. The training targets selected should focus on the immediate usability of words and sentences.

Common Intervention strategies

Common intervention strategies have been highlighted along with their usefulness:

1. **Comprehension skills:** In this situation, the students are initially asked to choose from two or more alternatives as a response to a series of commands. The response is typically pointing to the corrective alternative. Generally, a reward is presented, material or verbal praise on correct response. Gradually, abstract or imaginative vocabulary, indirect questions and ambiguous statements etc. are introduced to these children for improving their level of comprehension.
2. **Following instructions:** Children are taught to follow instructions at more difficult level than what he/she is at present. Multi-step instructions and commands are given in systematic manners to be followed by these children.

3. **Imitation training:** This strategy is generally used effectively in the initial teaching of expression. Modelling is used by the teacher with the student being physically prompted in the first instance. With practice, the child may learn to imitate novel responses. The child should respond by copying as precisely as possible.

4. **Expressive skills:** The most frequently used procedure for teaching expressive skills is to show the student an object, picture or event and s/he is asked to describe the object, picture or events. The children are encouraged through creating situations for asking questions and various information, describing events or actions or needs, requesting for clarification, participating in a conversation etc. and so on.

5. **Language story technique:** A story means fun and excitement to most children especially if the teller adds a lively dramatic touch to the story. Using stories specially constructed around themes loaded with familiarity and fanciful happenings can provide

learning experience. Language stories provide an opportunity to the students to practice the grammatical rules and emphasize the semantic context.

6. **Language use:** It includes aspects concerned with speech intelligibility, participating in a conversation and similar aspects. Voice training is given to improve the pitch, loudness and quality of the voice for speech clarity and fluency training deals with smoothness in speech by active intervention to remediate problems like stuttering, cluttering etc.,

7. **Articulation training:** The overall goal of articulation training is to improve the overall clarity of speech by correcting defective sound production by children with learning disability. The common sound production errors are- using a new sound instead of correct sound (substitution); leaving out the sound in a word (omission); imprecise production (distortion) and adding a new sound in a word (addition). Of these substitutions, omission and distortion errors are frequently noted in the speech of children with learning disability.

Generally articulation training is carried out at four levels namely, Isolated sound level (Eg. K, t, d), Syllable level (Eg. Ki, ku,, te, du), Word level, and (Eg. King, take, duck), Sentence level (Words in sentences). The training may be started at any level which is best suited to the child. Success at each level should prompt moving on to the next levels. The training at each level involves the following 4 steps: *Sensory/perceptual training* in recognizing the errors, *Correcting* the error by producing a new sound, *Stabilizing* or strengthen the use of sounds at each level and *Transferring* the sound in spontaneous speech under all conditions for everyday usage.

7.6   BEHAVIOUR MODIFICATION

Behaviour modification technology has proved to be very effective in the training and management of children with learning problems. Behaviour technology is used for both increasing desirable and undesirable behaviours. Systematic use of behavioural techniques can bring about change in the behaviour of children with learning disabilities irrespective of their age, sex, severity and setting (school and home).

All behaviours are the learnt behaviours. They are learned as a function of their utility in the environments of the children. Behaviourists consider behaviour as any observable and measurable actions of human being, which can be stated objectively. For example, the term "happiness" or "sadness" do not depict "behaviours", as these terms are ambiguous, not objectively observable and measurable. The term "happiness" may mean that "a child is smiling/laughing" or "sadness" represents that "the child is crying". Behaviours must be defined in terms of observable and measurable terms. These behaviours in the children are broadly classified into two types:

i) Skill/desirable/adaptive behaviours help us to adapt ourselves within our environment and are expected to be taught, ingrained or inculcated in children. For example, a child writes numerals up to 10, is skill behaviour.

ii) Problem/undesirable/maladaptive behaviours interfere in adaptation or adjustment in the environment and are expected to be reduced, extinguished or eliminated in children. For example, a child tears books, may be problem behaviour.

When we consider a behaviour as a problem behaviour

1. If it is not age appropriate.
2. If it interferes with the learning of the individual.
3. If it interferes with the learning of the others.
4. If it is socially/culturally unacceptable.
5. If it is injurious to the individual
6. If it is injurious for others
7. If it causes unreasonable stress to others
8. If it is socially deviant.

7.6.1   Types of Problem Behaviours

Children with learning disability are at increased risk for developing problem behaviours associated with oppositional defiant disorder (stubborn and rebellious), conduct disorders (destructive and antisocial), bipolar disorders (mood swings), anxiety and depression, attention deficits hyperactivity disorders, tourette syndrome (nervous tics and repetitive mannerisms) etc.

The various domains of problem behaviours with examples in behavioural terms are follows:

1. Violent & Destructive Behaviour (Physical harm towards others and damages property). Example-Hits others, bites others, pulls hair etc.

2. Temper Tantrums. Example-Screams, cries excessively, rolls on floor, stamps feet.

3. Misbehaviours with others. Example-Tease others, abuses etc.

4. Self injurious Behaviour. Example-Bangs head, bites self etc.

5. Repetitive Behaviour. Example-Rocks body, nods head etc.

6. Odd Behaviour. Example-Self laugh, self talk, smells objects etc.

7. Hyperactive Behaviour. Example-does not pay attention to a task, does not sit at a place.

8. Rebellious Behaviour. Example-Refuses to obey commands, runs away from school.

9. Antisocial Behaviour. Example-Cheats, steals, lies etc.

10. Fears. Example-Fear of places, persons, objects, animals.

11. Withdrawal behaviour. Example-Plays alone.

7.6.2   Behavioural Assessment

Behavioural assessment is essential and crucial for developing programmes for teaching children with learning disabilities. It involves a detailed assessment of the behaviours in a given child including both skill behaviours and problem behaviours. It helps to objectively evaluate changes in a given child over time and intervention phase. Behavioural assessment involves systematic collection and organization of information regarding current level of skill behaviour and current problem behaviours, which can be carried out through interview, observations, application of checklists or rating scales.

7.6.3   Behaviour Management Plan

After recording the baseline measures and analysing the antecedents and consequences of behaviour, the behaviour management plan is developed based on the functions of the targeted behaviour. All techniques involve either changing antecedents and/or consequences of the behaviour. Behaviour management plan is then implemented in all the settings like school, home, playground etc. together involving teachers, parents and playmates etc. Periodic and final evaluation is done using behavioural recording techniques.

7.6.4   Behavioural Techniques

Techniques like task analysis, prompting, chaining, shaping, reinforcement, modelling, token economy, contingency contracting etc. are used to increase skill behaviours. Following are the techniques used to decrease problem behaviours in children, which are being discussed in detail.

Techniques to Decrease Problem Behaviour

- *Restructuring the environment:* This can be done by changing the antecedent factors like particular place, situation, presence of a person, specific demands placed on the child, appropriateness of the task, method of instruction used by parents. One has to identify what are those factors that lead to a particular problem behaviour, and then the antecedent factors can be avoided / changed to manage the problem behaviour. Eg. If a child is very

distractible in a classroom and spending little time on the task in hand can be reduced by changing his seat.

- *Ignoring / Extinction:* The discontinuation or withholding of the reinforcer that has previously been reinforcing it is called extinction. This process is also known as systematic ignoring. Eg. if a child screams loudly to show his tantrums, he can be ignored for his behaviour.
- *Time out:* The child is excluded from an activity/stimulating situation or isolated for a very brief period of time during time out. For example, the child is taken out from an activity like watching TV for 5-minutes.

- *Response cost:* It is the cost which an individual pays for his/her indulgence in undesirable behaviours. It is usually linked with token economy programmes. Eg. if a child starts fighting with his classmates, the received token or privileges can be taken back.

- *Over correction:* This is a technique, which involves a combination of procedures. It not only teaches the person what not to do but also educate the person what s/he should do. It may be of restitution, over correction or positive practice.

- *Restitution and positive practice:* Restitution means restoring and correcting the situation to more than normal and positive practices involve practise appropriate way of behaviour in situations in which children normally misbehaves. Eg. if a child tears papers in a classroom and spoil the whole class, he may be asked to clean the whole class(restitution) and taught to put the papers in paper-bin(positive practice).

- *Reprimands:* A form of punishment – verbally chastise for exhibiting inappropriate targets behaviours useful when child is engaging in behaviour that necessitates immediate action because it is potentially harmful to self, others, or property.

- *Physical restraint:* Physical restrain is effective in reducing the behaviours like physical aggression and self-injurious behaviour. Restriction of the movement of part/whole of the body to prevent other or self. Eg. holding the child's arm down tightly to his side for a short period.

- *Graduated exposure to fear / systematic desensitization:* Usually applied for reducing fears, wherein the trainer through his or her contact with the child, carries out a series of steps to help the child become desensitized to the fear.

- *Aversion (aversive stimulation):* This is a technique that reduces the frequency of the undesirable behaviour by associating it with real or imagined aversive stimuli during a conditioning procedure. The procedure involves the presentation of a strong and disgusting smell followed by an undesirable behaviour.

- *Differential reinforcement:* Differential Reinforcement is the process of reinforcing an appropriate behaviour in the presence of one stimulus and simultaneously not reinforcing

behaviour in the presence of another stimulus. This techniques involves positive reinforcement for occurrence of appropriate alternate behaviour (DRA), absence of undesirable target behaviour for a specified period of time and occurrence of other behaviour(DRO), occurrence of behaviours which are incompatible with the targeted problem behaviour (DRI), and occurrence of low rates of the undesirable target behaviour (DRL) being recorded.

* *Self Management Strategies* involves self observation during indulgence in problem behaviour, recording of its occurrences, controlling oneself during the occurrence and evaluation of self monitoring activities and reduction in problem behaviour.

Check Your Progress

Notes : a) Space is given below for your answer.

b) Compare your answer with the one given at the end of this unit.

E7. Tick True/False:

i) In extinction, the child is taken out from the activity.   T/F

ii) The activities can be rescheduled in restructuring of environment to decrease targeted problem behaviour.   T/F

iii) Restitution   and   positive   practices   should   be   used simultaneously.   T/F

iv) Physical   restraint   is   a   non-punishment   technique   whereas differential reinforcement is a punishment technique of behaviour modification.   T/F

E8. Match the followings:

i) Reinforcing writing activities against nose picking behaviours
        (a) Self injurious

ii) Nail biting, peeling wounds
        (b) Restructuring of environment

iii) Cricket kits are taken back for quarrelsome behaviour
        (c) DRI

iv) Picking nose, hoarding unwanted objects
        (d) DRO

v) Changing the antecedents or consequences
        (e) Response cost

vi) Reinforcing painting activities behaviours
        (f) Odd against wandering outside school

7.7   UNIT SUMMARY

Co-curricular activities contribute to the vitality and richness of the life. It provides tools to create a life of involvement and self-directed participation, and it fosters attitude and appreciations which enhance the quality of learning experiences. Some co-curricular activities are art activities, sports activities, National popular sports, yogasanas and craft activities etc.

Occupational therapy is a method of intervention to restore, reinforce and enhance the performance required in day-to-day life and concerned with the social, psychological and cognitive development of the individual. It facilitates learning skills and functions essential for correction of dysfunctions, promotion and maintenance of good health.

Speech and language are defective when they are difficult to understand or unpleasant and may have errors in comprehension, expression, articulation, voice and fluency. Speech and language therapy is a remedial intervention programme to improve the existing communicative behaviour and facilitate learning of new communication behaviours by rearranging and manipulating the factors facilitating the language and communication acquisition.

Behaviour management programmes helps in decreasing problem behaviours and increasing appropriate pro-social behaviours. Appropriate behavioural techniques include techniques like restructuring of environment, extinction, differential reinforcement, time out, response cost, etc to decrease problem behaviours and other techniques like task analysis, prompting, chaining, shaping, reinforcement, modelling, contingency contracting etc. to increase skill behaviours.

7.8   GLOSSARY

Articulation	:	Articulation is a process of speech sound production.
Behaviour modification	:	Behaviour modification is an approach to increase desirable and decrease undesirable behaviours
Behaviours	:	Behaviours are observable and measurable activities.
Cluttering	:	Cluttering is a speech and language disorder characterized by a rapid and/or irregular speech rate.
Communication	:	Communication is the ability to receive and express information.

Comprehension	:	Comprehension is the ability to follow verbal and visual instructions.
Dysfunction	:	Dysfunction refers to error in functioning.
Eye-hand coordination	:	Eye-hand coordination is the ability to use eyes and hands together to perform required tasks.
Motor planning	:	Motor planning is the ability to carry out new or non-habitual movement most effectively.
Motor	:	It refers to movement from one place to another.
Occupational therapy	:	This is a method of treating the psycho-motor problems.
Perception	:	Perception is a process of interpreting the information.
Reinforcement	:	Reinforcement refers to a process of giving rewards.
Sensation	:	Sensation is a process of receiving information.
Sensory integration therapy	:	This is a method of treatment through physical activities that involve balancing and motor coordination aimed at improving brain stem functioning.
Speech and language therapy	:	This is a method of improving the communication behaviours.
Stuttering	:	It refers to disorders in the rhythm of speech.

7.9 ANSWERS TO CHECK YOUR PROGRESS

E1.   The three main areas of development facilitated through co-curricular activities are (i) Physical, motor and perceptual development;   (ii) behaviour, personality and affective development; (iii) intellectual, cognitive and language development.

E2.   i) Similar   ii) negative, positive
        iii) cognitive, affective and motor   iv) integral.

E3.   i)-(f)   ii)-(d)   iii)-(e)
        iv)-(a)   v)-(c)   vi)-(b)

E4.   i)-Motor, perceptual-motor   ii)-Motor planning
        iii)-Auditory & Visual perception   iv)-Occupational therapy
        v)-Sensory stimulation.

E5. i)-Verbal, vehicle   ii)-Syntax, semantics

     iii)-Articulation;   iv)-Sensory-motor and processing skills.

E6. i)-(d)   ii)-(e)   iii)-(b)

     iv)-(c)   v)-(a)

E7. i)-False   ii)-True   iii)-True   iv)-False

E8. i)-(c)   ii)-(a)   iii)-(e)

     iv)-(f)   v)-(b)   (vi)-(d)

7.10 ASSIGNMENTS

Q1. Plan two co-curricular activities each in the areas of cognition and emotion for a child with learning disabilities.

Q2. Describe five activities for developing balance and motor coordination in children with learning disability.

Q3. Plan activities for a child who misarticulates sounds /r/ as /l/ in words like /relgadi/as /lelgali/ and /k/ as /t/ in words like /takia/ as /tatia/

Q4. Identify two problem behaviours in a child with learning disability and develop a behaviour modification programme for her.

7.11 REFERENCES

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UNIT 8 SKILL DEVELOPMENT

Structure

8.1   INTRODUCTION

Every successful achiever have a multitude of gratifying experiences for developing important basic feelings of self worth and many opportunities for self-satisfaction, as well as, the enjoyment of pleasing others. As a result of their own feelings of accomplishment and their awareness of the approval of those around them, these children develop a sense of self worth and identity. They establish healthy identifications with their mother, father and other key figures in their lives. They build feeling of self-worth, tolerance for frustration and consideration for others.

In contrast, the emotional, social and personality development of children with learning disabilities follows a very different pattern. If the central nervous system is not intact and not maturing in a normal manner, disturbances in motor and perceptual development lead to dissatisfaction with one's self. Failed attempts at mastering tasks induce feelings of frustration rather than feelings of accomplishment. Instead of building self-esteem, the thwarted attempts produce an attitude of self-decision and, at the same time; fail to stimulate the parent's normal responses of pride. Parents become anxious and disheartened, which can result in either rejection or overprotection. With such a development scenario, it is not surprising that many students with learning disabilities develop social and emotional problems. If the problems are so severe that they interfere with further learning, the students may be referred for psychological or psychiatric support. In this unit an attempt has been made to discuss skill development among the children having learning disabilities.

8.2   OBJECTIVES

After reading this unit, you will be able to:
- explain the development and importance of social, emotional, behavioural and life skills; and
- describe and develop these skills in children with learning disabilities.

8.3   SOCIAL SKILLS

Social skills are the foundation for getting along with others. Lack of social skills can lead to behavioural difficulties in school, delinquency, inattentiveness, peer rejection, emotional difficulties, bullying, difficulty in making friends, aggressiveness, problems in interpersonal relationships, poor self-concept, academic failures, concentration difficulties, isolation from peers, and depression. Children with learning disabilities, sensory integration difficulties, Asperger's Disorder, Autism Spectrum Disorder, neurological disorders, and emotional disabilities often need additional training in social skills. They will be likely to benefit from direct instruction in social skills groups led by trained professionals and the availability of a safe environment in which to practice newly learned skills.

Understanding the social skill difficulties of children with learning and behaviour problems begins with an understanding of social competence and the characteristics associated with it. Where as the common characteristics of children with learning disabilities is a problem in learning, many students with learning disabilities are perceived with their peers and others as having social skill difficulties.

Children who are socially competent learn social skills through daily living and observation. Children with social deficits need conscious efforts and specific teaching to learn about the social world, and its silent language. Just as we teach students to perform school work, to read, write, to spell, do arithmetic and pass tests- we can teach learning disabled with social skill disabilities how to live with and relate to other people. And just as we must use different methods to teach different academic skills so must we use a variety of methods to teach students how to get along with others.

Social skills deficits affect students with learning disabilities in the educational setting. Educators and administrators have to realize that these deficits need to be addressed differently. Social skills need to be taught directly and students given opportunities to practice. Although some students with learning disabilities learn appropriate social skills incidentally during interactions with others who display appropriate social skills, many of these students either lack the ability to do so or the skills to interpret social situations and discriminate when to use particular social skills. Students who demonstrate severe emotional or behavioural difficulties should be evaluated to rule out other diagnosis that would warrant more of a therapeutic approach in addition to social skills training.

Instead of continuing to suspend students with learning disabilities for social skills deficits, schools need to take a more positive approach. Schools should offer ongoing professional development to train special educators, as well as general educators and paraprofessionals to teach social skills. School psychologists and school social workers could also benefit the school by assisting to develop social skills training programs that can be incorporated into the educational programme.

The types of social skill deficits generally observed in children with learning disabilities are related to the following areas:

1. **Body image and self-perception:** Motor activities, Puzzles, what is missing, Games, Pantomime, following instructions, Estimating, Puzzles, Completing pictures, Scrapbooks etc.

2. **Sensitivity to other people:** The spoken language is only one means of communication; there is also a "silent language" in which people communicate without the use of words, relying instead on gestures, stance, facial expressions, and tone of voice. Students with social deficits need help in learning how to decode the communication messages conveyed by this "silent language". For example, such students often fail to understand the meaning implied in facial expressions and gestures. Pictures of faces, Gestures, Videos and story situations, what the voice tells.

3. **Social maturity:** Social development involves growing from immaturity to maturity, from dependence to independence. Among all species of animal life, the human infant is perhaps the most dependent on others for sheer survival at birth. The road from complete dependence to relative independence is the long and gradual growth toward social maturity. Social maturity involves recognizing the rights and responsibilities of self and others, making friends, cooperating with a group, following procedures agreed on by others, making moral and ethical judgments, and gaining independence in going places. Anticipating consequences of social acts, establishing independence, making ethical judgments, planning and implementing.

4. **Social skills and learning strategies:** Learning strategies are useful for helping students acquire academic skills, and they are also effective in teaching social skills (Deshler, Ellis, & Lenz, 1996). Social strategies instruction changes students' typical patterns of responses to social situations. Students learn to develop new cognitive responses to social problems and to think about their social actions.

   Learning strategies techniques include teaching students to stop and think before responding, to verbalize and rehearse social responses, to visualize and imagine the effect of their behaviour, and to pre-plan social actions. The response of many students with learning disabilities in social situations is impulsive-they act without considering what is required and without thinking through possible solutions or the consequences of various courses of action. Through instruction in the strategies of self-verbalization and self-monitoring, students can be taught self-control to keep from giving immediate, non-

reflective responses. The students are trained to verbalize and ask themselves questions such as "What am I supposed to be doing?" In other words, they are taught to stop and think before responding. Teachers can model social learning strategies by talking out such thoughts as "Does this problem have similarities to other problems I have encountered?" or "What are three possible solutions?" The student then practices these skills of self-verbalization, or thinking out loud. The self-monitoring method has been found to reduce inappropriate social responses (Deshler & Schumacher, 1986).

5. **Social skill training:** Students with social skills deficits appear to be unable to make appropriate responses in social situations without direct teaching. Social skills training have an important place in the curriculum for these students. Methods of social skills training for children and youth are similar to those that are successful for other areas of learning including direct instruction, prompting, modelling, rehearsal, and reinforcement (Carter & Sugai, 1988). Judging behaviour in stories, grasping social situations through pictures, distinguishing reality from make-believe, learning to generalize newly acquired social behaviours, learning conversation skills, friendship skills, game playing skills, grasping social situations on film, telling.

Check Your Progress

Notes : a) Space is given below for your answer.

          b) Compare your answer with the one given at the end of this unit.

E1. What do mean by Social skills?

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E2. Name the types of social skill deficits generally observed among children with learning disabilities?

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8.4   EMOTIONAL SKILLS

Children with learning disabilities not only perform poorly in academics but also suffer with the emotional traumas. When nearly one child out of seven suffer from the problem of learning disabilities, it becomes the concern of teachers, parents and others associated with teaching learning process to look into the problem seriously and find the ways to have the solutions.

It is not surprising that many children with learning disabilities develop emotional problems. These reactions may take many forms, including conscious refusal to learn, overt hostility, resistance to pressure, clinging to dependency, quick discouragement, fear of success and withdrawal into a private world. If the problems are so severe that they interfere with further learning, the child may be referred for psychological or psychiatric counselling (Silver, 1992). Therefore such a problem must not be avoided and educational institutes must heed the need of a million children with learning disabilities who have the potential but await experts who can capture it.

The emotional scars of repeated failure and the inability to achieve and develop a sense of competence and self-worth are often indelible. It is not surprising that learning disabled students sometimes develop secondary emotional disturbances. Psychodynamic development and personality structure have important implications for understanding the emotional consequences of learning disabilities (Silver, 1992). Viewing the student from a psychodynamic perspective, the critical question is how does the student with learning disabilities feel?

Pupils who manifest learning problems when beginning academic work probably have been handicapped by preschool learning disabilities. The school may be a place that makes no allowances for their shortcomings and where those directing the learning are unable to comprehend the difficulties.

Ironically, the characteristic inconsistency and unpredictability of students with learning disabilities may account for an occasional academic breakthrough when they perform well, and such random moments of achievement may serve to make matters worse. The school may be convinced that 'he could do it if he just tried harder'. Failure now many are viewed purely in terms of poor behaviour and attitude. Increased impatience and blame from the teacher intensity the student's anxiety, frustration, and confusion, which brings disastrous consequences to the ego.

Trying to determine if the learning failure or the emotional problem is the primary precipitating factor may be of little value. A more constructive approach is to help the student accomplish an educational task so that feelings of self-worth are oriented in a positive direction, thus reinforcing ego function and increasing the capability to learn. The beginning of this mutual reinforcement cycle is also the beginning of effective treatment.

In summary, the student's feelings must be taken into consideration in an analysis of learning disabilities, for the psychodynamics and emotional status affect the learning process. The important questions from this point of view are: How does the student feel? Are the student's needs being satisfied? What is the student's emotional status? Emotional well being and a favourable attitude are prerequisites for effective learning.

Check Your Progress

Notes : a) Space is given below for your answer.

b) Compare your answer with the one given at the end of this unit.

E3. What do you mean by emotional problems?

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E4. What should one consider in analyzing the learning disabled's emotional status?

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8.5   BEHAVIOURAL SKILLS

Children with learning disabilities exhibit difficulty in self-discipline in relation to him as well as in relation to others. More specifically they have deficiency in the ability to co-operate, to pay attention, ability to organize, ability to cope with new situations, social acceptance, ability to accept responsibility, completion of assignments and tactfulness. The above mentioned abilities (skills are highly essential for one's adjustment with the physical and social environment which form basis for success in any field of life. Children have to be trained to develop these skills adequately.

Behaviour modification derives from the concept of operant conditioning (Skinner, 1957). The basic premise is that behaviour is learned and is a function of behaviour's consequences. According to Wallace and Kauffman (1986), "Behaviour modification refers to any

systematic arrangement of environmental events to produce specific changes in observable behaviour". Thus, it is a highly structured and systematic approach that results in strengthening, weakening, or maintaining behaviours.

After identifying and collecting baseline data on target behaviour, the teacher must observe an event that happens just before the student's behaviour (antecedent events) and just after the behaviour (subsequent events). These events are then manipulated, and various reinforcers or rewards are used to elicit a change in the behaviour. A reinforcer is any event that follows a behaviour and results in maintaining or increasing the probability or rate of the behaviour. Positive reinforcement means adding something pleasurable or positive to the environment (that is, consequences that increase the probability that the behaviour will occur again), where negative reinforcement means withdrawing something unpleasant or negative from the environment (that is, avoidance of a negative consequence by performing a behaviour). Reinforcement results in strengthening or increasing the target behaviour.

Various social or tangible reinforcers can be used (for example praise, hugs, treats, free, time). The following hierarchical order of the level of reinforcers moves from extrinsic reinforcers (reinforcements from outside the performance of a task) to intrinsic reinforcers (reinforcement directly from performing a task).

Extrinsic reinforces forcers

1. Primary reinforcers (for example, sleeping, eating, drinking-necessary for survival).

2. Tangible reinforcers (for example, food items, pencils, certificates).

3. Token reinforcers with backup items or activities (for example, chips that can be exchanged for a preferred item or activity when a certain amount is earned)

4. Social approval (for example, gestures, touch, verbal expressions).

5. Project or activity (for example, running errands, being a line leader, getting free time, playing a game.)

Intrinsic reinforcers

6. Task completion

7. Feedback or result

8. Acquisition of knowledge or skill

9. Sense of masterly or accomplishment

Extrinsic reinforcers initially can be used to encourage a student to exhibit appropriate behaviour or perform a task. The teacher gradually should withdraw material reinforcers and stress activities and events. Eventually, as competence in a task increases, the need for extrinsic reinforcement will decrease, and intrinsic reinforcers will provide motivation.
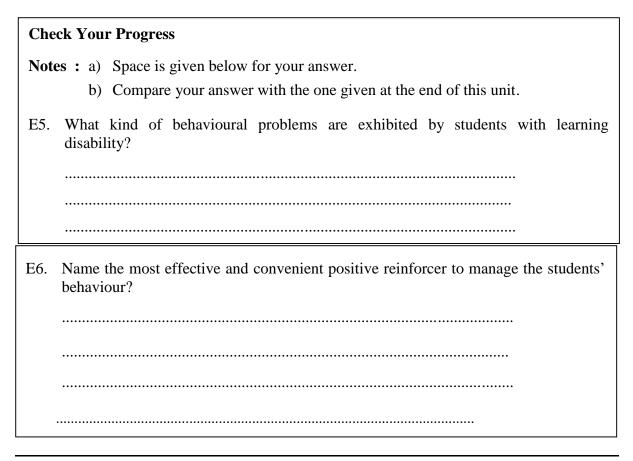
Praise is one of the most effective and convenient positive reinforcers for teachers to use in managing student behaviour. Darch (1983) report that effective praise has several important features: Good praise adheres to the 'if-then' rule. The 'if-then' rule states that if the student is behaving in the desired manner, then (and only then) the teacher praises the student, praise frequently includes students' names, is descriptive, praise conveys that the teacher really means what he is saying (that is, it is convincing), is varied, does not disrupt the flow of individual or class activities.

In using reinforcement techniques, the teacher must remember that reinforcement immediately following the behaviour is most effective. In addition, attention can act as a reinforcer for inappropriate behaviour. For example, when the teacher frowns or speaks sharply, the student may interpret this as reinforcing attention. Thus, the teacher should be careful not to reinforce inappropriate behaviour with attention. The teacher should shift from reinforcing everyday appropriate behaviour to reinforcing academic effort as soon as possible. Behaviours such as raising a hand to talk or appropriate lining up for lunch eventually should become routine and be maintained without a great deal of teacher praise. Contingent reinforcement of academic learning promotes a higher level of functioning and improves achievement. Research indicates that both academic performance and appropriate behaviour improves achievement. Research indicates that both academic performance and appropriate behaviour to reinforce, academic performance usually does not improve as a result. It may be necessary initially to reinforce the behaviour to bring it under control, and then the teacher should focus on reinforcing academic performance and place contingencies on appropriate behaviour as needed.

The schedule of reinforcement (that is, the plan of conditions under which reinforcement occurs) can be either continuous or intermittent. On a continuous schedule, the desired behaviour- is reinforced every time it occurs. On an intermittent schedule, reinforcement is given according to either an interval (reinforcers given at certain times) or a ratio (reinforcers given after a specific number of responses).

Shaping refers to reinforceing steps towards the target behaviour. The goal is broken down into an ordered sequence of steps or tasks, and reinforcement is given to those behaviours that come close to the desired behaviour. The desired behaviour thus is shaped by gradually increasing the requirement for reinforcement until the target behaviour is obtained.

Punishment, as opposed to reinforcement, refers to presenting something negative or withdrawing something positive following the behaviour. This results in decreasing the undesirable response. Before punishment is used, the teacher should explore alternatives to punishment such as (a) discussing the problem with the student, (b) ignoring the misbehaviour if feasible, and   (c) reinforcing students who are acting appropriately.

Check Your Progress

Notes : a) Space is given below for your answer.

b) Compare your answer with the one given at the end of this unit.

E5. What kind of behavioural problems are exhibited by students with learning disability?

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E6. Name the most effective and convenient positive reinforcer to manage the students' behaviour?

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8.6   LIFE SKILLS

World Health Organization defines Life skills as "Abilities for adaptive and positive behavior that enable individuals to deal effectively with the demands and challenges of everyday life." UNICEF defines life skills as "a behaviour change or behaviour development approach designed to address a balance of three areas: knowledge, attitude and skills". The UNICEF definition is based on research evidence that suggests that shifts in risk behaviour are unlikely if knowledge, attitudinal and skills based competency are not addressed.

Life skills are essentially those abilities that help promote mental well-being and competence in young people as they face the realities of life. Most development professionals agree that life skills are generally applied in the context of health and social events. They can be utilized in many content areas: prevention of drug use, sexual violence, teenage pregnancy, HIV/AIDS prevention and suicide prevention.

The definition extends into consumer education, environmental education, peace education or education for development, livelihood and income generation, among others. In short, life skills empower young people to take positive action to protect them and promote health and positive social relationships.

UNISEF, UNESCO and WHO list the ten core life skill strategies and techniques as: problem solving, critical thinking, effective communication skills, decision-making, creative thinking, interpersonal relationship skills, self-awareness building skills, empathy, and coping with stress and emotions.

Self-awareness, self-esteem and self-confidence are essential tools for understanding one's strengths and weaknesses. Consequently, the individual is able to discern available opportunities and prepare to face possible threats. This leads to the development of a social awareness of the concerns of one's family and society. Subsequently, it is possible to identify problems that arise within both the family and society.
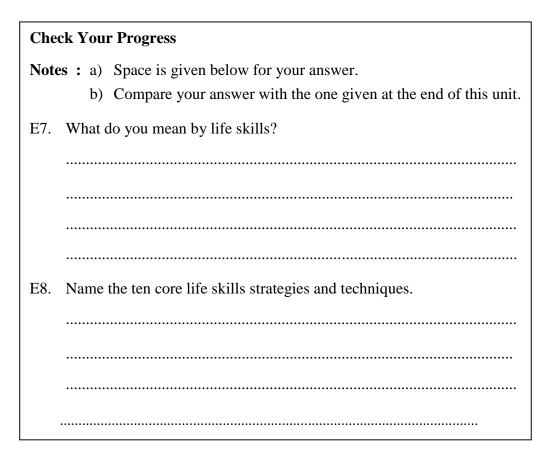
With life skills, one is able to explore alternatives, weigh pros and cons and make rational decisions in solving each problem or issue as it arises. It also entails being able to establish productive interpersonal relationships with others. Life skills enable effective communication, for example, being able to differentiate between hearing and listening and ensuring that messages are transmitted accurately to avoid miscommunication and misinterpretations.

WHO categorizes life skills into the following three components?

a) **Critical thinking skills/Decision-making skills** – include decision-making/ problem solving skills and information gathering skills. The individual must also be skilled at evaluating the future consequences of their present actions and the actions of others. They need to be able to determine alternative solutions and to analyze the influence of their own values and the values of those around them.

b) **Interpersonal/Communication skills** – include verbal and non-verbal communication, active listening, and the ability to express feelings and give feed back. Also in this category, are negotiation/refusal skills and assertiveness skills that directly affect ones' ability to manage conflict? Empathy, which is the ability to listen and understand others' needs, is also a key interpersonal skill. Teamwork and the ability to cooperate include expressing respect for those around us. Development of this skill set enables the adolescent to be accepted in society. These skills result in the acceptance of social norms that provide the foundation for adult social behaviour.

c) **Coping and Self-management skills** refer to skills to increase the internal locus of control, so that the individual believes that they can make a difference in the world and affect change. Self esteem, self-awareness, self-evaluation skills and the ability to set goals are also part of the more general category of self-management skills. Anger, grief and anxiety must all be dealt with, and the individual learns to cope loss or trauma. Stress and time management are key, as are positive thinking and relaxation techniques.

UNICEF promotes the understanding that the life skills approach can be Successful, if the following are undertaken together:

a) The Skills – This involves a group of psychosocial and interpersonal skills which are interlinked with each other. For example, decision-making is likely to involve creative and critical thinking components and values analysis.

b) Content – To effectively influence behaviour, skills must be utilized in a particular content area. "What are we making decisions about?" Learning about decision-making will be more meaningful if the content is relevant and remains constant. Such content areas as described could be drug use, HIV/AIDS/STI prevention, suicide prevention or sexual abuse. Whatever the content area, a balance of three elements needs to be considered: knowledge, attitudes and skills.

c) Methods – Skills-based education cannot occur when there is no interaction among participants. It relies on groups of people to be effective. Interpersonal and psychosocial skills cannot be learned from sitting alone and reading a book. If this approach is to be successful, all three components, life skills, content and method should be in place. This effectively means that life skills can be learnt through the use of certain methods and tools.

Check Your Progress

Notes : a) Space is given below for your answer.

          b) Compare your answer with the one given at the end of this unit.

E7. What do you mean by life skills?

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E8. Name the ten core life skills strategies and techniques.

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8.7   UNIT SUMMARY

- Social Skills are the foundation for getting along with others. Lack of social skills can lead to behavioural difficulties in school, delinquency, inattentiveness, peer rejection, emotional difficulties, bullying, difficulty in making friends, aggressiveness, problems in interpersonal relationships, poor self-concept, academic failures, concentration difficulties, isolation from peers, and depression.

- The types of social skill deficits generally observed in children with learning disabilities are related to the following areas: *Body image and self-perception, sensitivity to other people, social maturity, social skills and learning strategies, social skill training.*

- Learning disabled may develop emotional problems. These reactions may take many forms (i) conscious refusal to learn, (ii) over-hostility,   (iii) negative conditioning to learning (iv) displacement of hostility,   (v) resistance to pressure, (vi) clinging to dependency, (vii) quick discouragement, (viii) the attitude that success is dangerous, (ix) extreme distract ability or restlessness, and (x) absorption in a private world.

- The student's feelings must be taken into consideration in an analysis of learning disabilities, for the psychodynamics and emotional status affect the learning process. The important questions from this point of view are: How does the student feel? Are the student's needs being satisfied? What is the student's emotional status?

- Children with learning problems exhibit difficulty in self-discipline in relation to him as well as in relation to others. More specifically they have deficiency in the ability to co-operate, to pay attention, ability to organize, ability to cope with new situations, social acceptance, ability to accept responsibility, completion of assignments and tactfulness.

- Behaviour modification derives from the concept of operant conditioning (Skinner, 1957). The basic premise is that behaviour is learned and is a function of behaviour's consequences. According to Wallace and Kauffman (1986), "Behaviour modification refers to any systematic arrangement of environmental events to produce specific changes in observable behaviour".

- World Health Organization defines 'Life Skills' as abilities for adaptive and positive behaviour that enable individuals to deal effectively with the demands and challenges of everyday life." UNICEF defines life skills as "a behaviour change or behaviour development approach designed to address a balance of three areas: knowledge, attitude and skills.

- UNISEF, UNESCO and WHO list the ten core 'Life Skill' strategies and techniques as: problem solving, critical thinking, effective communication skills, decision-making, creative thinking, interpersonal relationship skills, self-awareness building skills, empathy, and coping with stress and emotions.

- WHO categorizes life skills into the following three components: a) Critical thinking skills / decision-making skills, b) Interpersonal / communication skills, c) Coping and self-management skills.

8.8   GLOSSARY

Asperger's disorder	:	Asperger's Disorder is a milder variant of Autistic Disorder. Both Asperger's Disorder and Autistic Disorder are in fact subgroups of a larger diagnostic category called Autistic Spectrum Disorders, mostly in European countries, or pervasive developmental disorders (PDD), in the United States. In Asperger's Disorder, affected individuals are characterized by social isolation and eccentric behaviour in childhood. The name "Asperger" comes from Hans Asperger, an Austrian physician who first described the syndrome in 1944.
Autism spectrum disorder	:	Autism is a severe developmental disability that generally begins at birth or within the first three years of life. It is the result of a neurological disorder that changes the way the brain functions -- causing delays or problems in many different skills from infancy to adulthood. For example, both children and adults with autism usually exhibit difficulties in social interaction as well as in verbal and non-verbal communication. They also tend to be interested in odd, repetitive, or restricted activities. While the majority of autistic children look completely normal, they differ from other children by engaging in perplexing and distressing behaviors.
Behaviour modification	:	It refers to any systematic arrangement of environmental events to produce specific changes in observable behaviour.
Life skills	:	Abilities for adaptive and positive behaviour that enable individuals to deal effectively with the demands and challenges of everyday life.
Punishment	:	It refers to presenting something negative or withdrawing something positive following the behaviour.
Shaping	:	It refers to reinforcing steps towards the target behaviour.

8.9   ANSWERS TO CHECK YOUR PROGRESS

E1.   Social Skills are the foundation for getting along with others. Lack of social skills can lead to behavioural difficulties in school, delinquency, inattentiveness, peer rejection, emotional difficulties, bullying, difficulty in making friends, aggressiveness, problems in interpersonal relationships, poor self-concept, academic failures, concentration difficulties, isolation from peers, and depression.

E2.   The types of social skill deficits generally observed in children with learning disabilities are related to the following areas: *Body image and self-perception, Sensitivity to other people, Social Maturity, Social skills and learning strategies, Social skill training.*

E3.   Children with Learning disability may develop emotional problems. These reactions may take many forms (i) conscious refusal to learn,   (ii) Overt-hostility, (iii) Negative conditioning to learning   (iv) displacement of hostility, (v) Resistance to pressure, (vi) Clinging to dependency, (vii) quick discouragement, (viii) the attitude that success is dangerous, (ix) extreme distract ability or restlessness, and (x) absorption in a private world.

E4.   The student's feelings must be taken into consideration in an analysis of learning disabilities, for the psychodynamics and emotional status affect the learning process. The important questions from this point of view are: How does the student feel? Are the student's needs being satisfied? What is the student's emotional status? Emotional well being and a favourable attitude are prerequisites for effective learning.

E5.   Children with learning problems exhibit difficulty in self-discipline in relation to him as well as in relation to others. More specifically they have deficiency in the ability to co-operate, to pay attention, ability to organize, ability to cope with new situations, social acceptance, ability to accept responsibility, completion of assignments and tactfulness.

E6.   Praise is one of the most effective and convenient positive reinforces for teachers to use in managing student behaviour.

E7.   World Health Organization defines Life skills as "Abilities for adaptive and positive behaviour that enable individuals to deal effectively with the demands and challenges of everyday life.

E8.   The ten core life skill strategies and techniques as: problem solving, critical thinking, effective communication skills, decision-making, creative thinking, interpersonal relationship skills, self-awareness building skills, empathy, and coping with stress and emotions.

8.10   ASSIGNMENTS

Q1.   What are social skills? How they are important for learning disabled?

Q2.   Name the Emotional problems observed in learning disabled?

Q3.   Discuss the behaviour problems observed in Learning Disabled?

Q4.   What do you mean by extrinsic and intrinsic rein forcers?

Q5.   Discuss the importance of life skills in daily life for learning disabled?

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UNIT 9 AWARENESS AND RESOURCE MOBILIZATION

Structure

9.1   INTRODUCTION

The key objective of SSA is Universalization of Elementary Education (UEE). Three important aspects of UEE are access, enrolment and retention of all children in 6-14 years of age. This goal of UEE, has further been facilitated by the Constitutional (86th Amendment) Act, making free and compulsory elementary education a fundamental right, for all the children in the age group of 6-14 years. This amendment has given a new thrust to the education of Children With Special Needs (CWSN), as without their inclusion, the objective of UEE cannot be achieved. In fact inclusion of one of the groups, which is extremely crucial for UEE, is perhaps that of the CWSN. Hence, education of CWSN is an important component of SSA.

SSA ensures that every child with special needs, irrespective of the kind, category and degree of disability, is provided meaningful and quality education. Hence, SSA has adopted a zero rejection policy. This means that no child having special needs should be deprived of the right to education and taught in an environment, which is best, suited to his/her learning needs. These include special schools, EGS, AIE or even home-based education.

The major thrust of SSA is on inclusion or mainstreaming CWSN into the fabric of formal elementary schooling. Experiences of programmes like DPEP and various research findings have shown that inclusion is best determined by the individual needs of the child. Most children with special needs can be enrolled and retained in regular schools if adequate resource support is provided to them, whereas there are others who might have to be provided some kind of pre-integration programmes, before they can be mainstreamed in a classroom. There might also be still some CWSN with severe profound disabilities, who would require an educational programme and intensive specialized support completely beyond the purview and scope of a formal school in the current situation.

Thus, SSA has adopted a more expansive and a broad-based understanding of the concept of inclusion, wherein a multi-option model of educating CWSN is being implemented. The dual objective of embracing this model is to bring more CWSN under the umbrella of SSA and to provide to CWSN appropriate need based skills, be it vocational, functional literacy or simply activities of daily living. Further, an attempt is being made to provide these skills in the most appropriate learning environment.

This unit will focus on the awareness and resource mobilization particularly for the children with disabilities within the SSA context.

9.2 OBJECTIVES

After reading this unit, you will be able to:

- describe the importance of support provided through teachers, parents and peers to children with LD;
- explain the role of BRC / CRC in the context of the children with LD;
- explain the role of PHCs and VECs;
- explain SSA guidelines for teachers within a broader framework; and
- identify and develop the teaching learning material to be used by children with LD.

9.3 CREATING AWARENESS

Learning disability mainly affects the reading writing and comprehension of the children. It is very difficult to diagnose the problems as it resembles with other behavioural problems. The creation of awareness about the general and specific sign and symptoms of learning disabilities is very important for getting proper intervention programme. The roles of the following stakeholder are very important in creating awareness for the learning disabilities.

9.3.1 Teachers

Teachers are the key players in generation of awareness for potential of children with learning disabilities and its remedial aspects. First of all the teacher themselves should be aware about the education particularly about teaching strategy, teaching learning material and

various referral agencies working for the care and cause of learning disabilities. Accepting the child in the classroom and giving them proper opportunity to understand the classroom input are the basic role of teachers with reference to learning disabilities. The teacher can also motivate the community member and parents and sensitize them about the various aspects of learning disabilities.

9.3.2 Parents

The parent could be aware about the potential and remedial aspects of education of children with learning disabilities. Parent can be advised for accepting their child with learning disability so that they can plan for the intervention and taking remedial major with the help of various agencies. The awareness among the parents can help the children with learning disabilities to a great extent because unless the parents are not aware of the existing problems with the child, they will not be able to take proper intervention major.

9.3.3 Peers

It has been established that acceptance by peers generates a better self-concept among children with learning disabilities and the relationship between school performance and self-concept is well established. Acceptance can be done through peer sensitization which should be one of the major responsibilities of the teacher. Warm interpersonal interaction removes prejudice much more easily than any other method. Therefore, the teacher must encourage inter personal interaction in curricular and co-curricular activities between children with LD and other children in the classroom.

9.4 ROLE OF BRC/CRC IN SSA

BRCs and CRCs are academic resource centers at block and cluster level. Each BRC works with a number of CRCs and about 10-20 Resource Teachers spread across the block to work with all concerned schools, EGS/ AIE centers, different Departments and other academic institutions and individuals. Major role and functions of the BRCs and CRCs are narrated below:

- *Organisation of training programmes:* Works as a training venue for capacity building of teachers, head masters, EGS/ AIE teachers, resource persons, VECs, PRIs etc.

- *Monthly academic consultations:* Functions as a forum for peer interaction amongst teachers, teacher educators, resource group members; monthly teacher consultations take place at CRCs.

- *Regular on-site academic support:* Works as a school support unit through regular visits, model sessions, school performance assessments, etc.

- *Development as an educational resource center:* Develops as an academic resource center (of teaching learning materials, good practices, data, etc.)

- *Monitoring and evaluation of quality improvement interventions:* BRCs and CRCs play a crucial role in monitoring and evaluation of various quality interventions.

- *Community mobilization:* Works as a forum for bridging gap between community and school through regular interactions with VECs, SMCs, PTAs / MTAs etc. for school development activities.

- *Effective resource management:* Develops as a centre that attempts to get resourceful people for wide range of activities related to universal access, enrolment, remedial teaching and attendance for quality elementary education. This also includes financial management.

- *Local planning:* Functions as a centre for contextual planning by identifying and addressing local issues and challenges. BRCs & CRCs manage all the learning enhancement efforts at local level in collaboration with school teachers and community members.

- *Contextual pedagogical renewal:* Works as a place for integrating local knowledge and culture with school curriculum

- *Academic link institute:* Works as a link between school, community, and DIET. They also provide feedback to VEC, PTA, MTA, DIETs, DPOs, and SPO.

Role of BRC/CRC for Children with LD

Mainstreaming children with LD in regular schools call for adapting the existing teaching strategies or devising effective pedagogical strategies to meet the learning needs of all children. Inclusive Education (IE) is nothing but use of best classroom practices to promote optimum learning of all children. In regular schools, some children with LD might require remedial assistance/resource support, which mainly is the task of a resource teacher. These resource teachers are either not available or even if they are they generally work in an itinerant (mobile) mode. As a result a child with a special need might not receive the required support from a resource teacher. This gap could partly be met by using the services of BRC/CRC after orienting them to inclusive education of children with LD, as the main task of BRC/CRC under SSA is to provide on site support to teachers and to undertake academic supervision. Hence, it is important to involve the BRC/CRC also in the education of children with LD.

The main functions of the BRC/CRC could be outlined as follows:

- Help in organizing assessment of children with LD.

- Undertake functional assessment of children with LD.

- Make appropriate referrals for children with LD after discussion with parents and teachers.

- Learn the use of educational aids and plus curriculum skills to be used by children with LD.

- Learn the usefulness of relevant therapies.

- Collaborate with the teachers to make necessary modifications in the classroom and curriculum and to use strategies/instructional interventions to help children with LD learn.

- Assist general teachers in development of inclusive TLM and adaptation of the existing TLM, according to the learner needs.
- Act as a change agent and model acceptance of children with LD.

- Help in bringing about peer sensitization.

- Establish contact with the community and parents.

On the whole BRCs and CRCs are expected to play a very vital role in managing all interventions related data collection/ management, access, enrolment, quality improvement and systemic management by coordinating with all related organizations and individuals.

9.5   ROLE OF PRIMARY HEALTH CENTRE (PHC)

Primary Health Centre (PHC) and its sub-centres are intended to meet the health care needs of rural population, Each primary health centre covers a population of 1,00,000 and spreads over about 100 villages. The primary health centre is looked after by a Medical Officer, Block Extension Educator, one female Health Assistant, a compounder, and laboratory technician. It is equipped with necessary facilities to carry out basic medical care. The primary health centre deals with -

- Basic medical care

- Mother and child health care

- Safe water supply and basic sanitation

- Prevention and control of local diseases

- Collecting statistical information

- Health education and

- Training of health guides and health workers.

Within the SSA context, the PHCs could be used for early identification and prevention of LD, including referral to appropriate rehabilitation services. PHCs could play a key coordination role in referring and following up people with disabilities.

To raise awareness on LD in communities can be another important activity. As a result, access to and quality of rehabilitation services for children with LD can improve through raised awareness of communities, stakeholders, and service providers. PHCs can play a key role in organizing camps for issuing disability certificate for children with LD (with a disability identity card) at block / cluster level. The PHCs can also play a very crucial role in creating awareness on LD in the general communities, including parents and teachers. Regular Screening and health checks for those with learning disability should also come under the purview of PHCs. PHCs could be asked to develop healthcare information for the parents and care- takers of children with learning disabilities. This would help them to identify and report their own symptoms.

Research has identified that while people with learning disabilities often have greater health needs than the general population, they access primary care at the same rate or lower. PHC health care givers should take on a key role in supporting children/ people with learning disabilities to access health services. They should work closely with the parents and teachers of children with LD.

9.6   ROLE OF VILLAGE EDUCATION COMMITTEE (VEC)

In SSA, there is a provision of constitution of grass-root structures like the Village Education Committee (VEC) or a School Management Committee (SMC) or similar forum at village/school level. The SSA State Mission Societies should consider having parent of a child with LD as the member of the VEC or the SMC. The 2-day training of community leaders should have an essential component on issues related to CWSN, including children with LD.

The VEC could:

- Monitor implementation of plan at the local school level.

- Monitor the records of CWSN, including children with LD in the Village Education Register.

- Provide service delivery to children with LD.

- Monitor that children with LD are well accepted by teachers and peers.

- Monitor that children with LD are not teased or labelled.

9.7   GUIDELINES FOR TEACHERS DEALING WITH CHILDREN WITH LD

Effective Teachers of Students with Learning Disabilities

Teachers who work with children with LD should have the following characteristics:

- Strongly engage students within academically focused, teacher-directed classrooms, using sequenced, structured materials.

- Focus on academic matters using activities with goals that are clear to students.

- Allocate sufficient time for instruction.

- Frequently monitor student performance and check student work.

- Plan lessons and questions to obtain many correct responses from students.

- Offer immediate feedback to students on academic tasks.

Teachers who work successfully with students with learning disabilities should also possess the following characteristics:

✓ **Positive attitude towards mainstreaming and integration:** Teacher must believe that children can benefit from being in an integrated learning environment. An integrated classroom helps prepare children to live in an integrated society as adults. Such teachers welcome diversity among the children in their classes and help their students learn to appreciate the contributions that each child has. The teachers are willing to be flexible and modify their instruction to meet unique needs of students with learning disabilities so that they can succeed in the regular class. A student's success or failure may depend on small changes in a teacher's approach.

✓ **The ability to collaborate with resource teachers and parents as a team:** Children with learning disabilities need the support and collaborative efforts of regular and special educators. Effective classroom teachers are also effective team members. They know how to work with others.

✓ **Knowledge of behaviour management techniques:** Children with learning disabilities having attention problems need behaviour management to learn how to control their inattention, impulsivity and hyperactivity. Classroom teachers should understand the concepts underlying the basic principles of reinforcement and behaviour theory and be able to apply behaviour management strategies.

✓ **Personal characteristics:** Teachers who work well with children with learning disabilities are fair, firm, warm, and responsive, have patience and a sense of humour, and are able to establish a rapport with pupils. Rapport refers to a harmonious relationship between the teacher and the child, a feature of paramount importance. When a strong rapport exists between teacher and pupil, learning often occurs despite inappropriate techniques or materials, or other shortcomings. Effective teachers provide structure and expectations for students that students realize are fair and just. Effective teachers know that learning may take a long time and requires many repetitions, but they have the patience to wait as the child learns. Finally, teaching children with learning disabilities is hard work. Teachers need a good sense of humour to maintain their diligence and forbearance.

The general teacher should bear the following in mind:

- ✓ Do not let the other children make derogatory remarks against this child.

- ✓ Always check his / her work like that of other children. The teacher should tell very clearly to the learning disabled what he/ she has achieved, what are the accomplishments and what are the areas that need improvement.

- ✓ Avoid labelling as the child's self perception may be effected by this.

- ✓ Work in collaboration with the family and resource teachers. The child needs support from everybody.

- ✓ Many children with learning problems may feel inferior and have a low self concept. They need a lot of encouragement, praise and support to feel confident about themselves.

- ✓ Be sympathetic. Avoid harsh comments.

- ✓ Do not compare the performance of this child with other children in the class.

- ✓ Make sure that the child is not ridiculed or led to feel let down.

- ✓ Discuss the problems of the child with the family.

- ✓ The regular teacher should not consider these children to be only resource teacher's responsibility. S/ he should take care of their special needs as much as she can in the regular classrooms.

Role of a General Teacher in SSA for Children with LD

It is apparent that a general teacher has an enormous responsibility in dealing with children with LD. A general teacher in SSA would have to:

- Assess the child's current level of functioning, based on his/her classroom performance and work samples;

- Develop educational aids and TLM that can be used by the children with LD

- Collaborate with the resource teacher to make necessary modifications in the classroom and curriculum;

- Use strategies/instructional interventions that would help children with special educational needs learn better;

- Modify teaching and learning material to learner needs;

- Act as a change agent and model acceptance of these children; and

- Help in bringing about peer (other children in the classroom) sensitization.

Thus, it can be seen from the foregoing that a teacher plays the most crucial role in the education of children with LD.

Check Your Progress

Notes : a) Space is given below for your answer.

b) Compare your answer with the one given at the end of this unit.

E1. List out the main functions of block resource coordinators / cluster resource coordinator.

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E2. List out the major functions of village education committee with reference to education of children with learning disabilities.

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E3. What are the role of general teacher in SSA for children with learning disabilities?

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9.8 UNIT SUMMARY

This unit has introduced you to the importance of awareness and resource mobilization in the context of children with LD. As teachers in SSA, you would have to take the help of BRC/

CRC, resource teachers and VECs to generate awareness on LD. Remember a child with a learning disability is like any other child. He/she thinks and feels like other peers around, but may have problems that are different from others. These children might have educational problems in the areas of reading, writing, maths and language or behavioural problems such as in attention, impulsivity and hyperactivity or social problems. Characteristics of children with learning disability need extensive attention as many of these problems may even tend to persist in adulthood. It should be borne in mind that each student with a learning disability is unique and might exhibit problem in one area, and not in another.

Students with learning disabilities need instruction to help them focus, take responsibility for their own learning and learn strategies that they can use to manage their own learning. They must become independent, rather than dependent, learners. Teachers, principals and resource teachers should find ways to provide the necessary support services to educate all children. You as a teacher can provide good role models and high expectations for students with particular challenges. But this is only possible if you along with the resource teacher, school administrators, parents and community all work as a team. Thus, the key to success lies in shared ownership. You would have to realize that all of the children in schools are "all of our children" and work within a collaborative framework to meet the unique needs of all children, especially children with LD.

9.9 ANSWERS TO CHECK YOUR PROGRESS

E1. Following are considered to be the main functions of block resource coordinators/cluster resource coordinator

- Help teacher in assessing difficulties of children with learning disabilities

- Make appropriate referrals for children with learning disabilities

- Help teachers in development of inclusive TLMs and adaptations of existing TLMs as per the learners needs

- Organise training/orientation programmes for teachers and other functionaries associated with education of children at school level

E2. Major functions of VEC are:

1. Monitor implementation of plans at local school level

2. Record and documentation of children with learning disabilities in the

   village education register

3. Monitor the services delivered to children with learning disabilities

E3. Role of teacher in SSA for facilitating education of children with learning

disabilities are:

- Develop an ethos of inclusive classroom

- Avoid labelling child

- Work in collaboration with family and resource teachers

- Support the child to feel confident about themselves

- Work with multiple teaching learning strategies in the classroom.

9.9 ASSIGNMENTS

Q1.   Prepare a detail proposal for creating awareness with reference to learning disabilities at the block level emphasizing the role of teacher and parents.

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UNIT 10 UTILISATION OF SSA RESOURCES FOR CHILDREN WITH LEARNING DISABILITIES AND REFERRAL AGENCIES

Structure

10.1 INTRODUCTION

As mentioned in Unit 9, SSA ensures that every child with special needs, irrespective of the kind, category and degree of disability, is provided meaningful and quality education. Hence, SSA has adopted a *zero rejection policy.* This means that no child having special needs should be deprived of the right to education. This also includes children with LD Further it states that each child should be taught in an environment, which is best, suited to his/her learning needs. These include special schools, EGS, AIE or even home-based education. Another model widely used under SSA is the resource room model.

This Unit mainly focuses on the role of resource room and resource teacher under SSA, Teaching learning material used by children with Learning disabilities, accommodations required by children with LD and referral agencies for LD, with reference to the SSA.

10.2 OBJECTIVES

After going through this unit, you will be able to:

* explain the importance of support provided to children with LD through a resource room;
* describe the role of a resource teacher in the context of the children with LD;
* explain the role referral agencies;
* explain the accommodations framed under SSA for children with LD; and
* identify the teaching learning material to be used by children with LD.

10.3 RESOURCE ROOM FOR LEARNING DISABLED

Resource rooms are classrooms (sometimes smaller classrooms) where a special education program can be delivered to a student with a disability. It is for the student who needs some special instruction in an individualized or small group setting for a portion of the day. Individual needs of CWSN are supported in resource rooms. A resource room is managed by resource teachers who are specially trained educators to provide direct instruction to students in the resource room and consultative services to the students' regular classroom teachers, parents and community.

Resource room teachers have a challenging role as they need to design all instruction to meet the specific needs of the students they service to maximize their learning potential. The resource room teachers should work closely with the child's regular classroom teacher and the parents to ensure support is indeed helping the student to reach their full potential. The teacher follows the IEP and discusses it with the general teacher at regular intervals.

The **resource room** model is the most common model in the inclusive education for children with disabilities in general. **In SSA, one room in the BRC/CRC or block level should be set up as a resource room for CWSN. This room should be developed as a resource room to impart certain skills and education to a child with a learning disability.**

10.4 KEY FUNCTIONS OF A RESOURCE ROOM UNDER SSA

Pre-integration Skills to CWSN

The most crucial function of a resource room is to impart certain skills to children with disabilities with the help of a trained special educator. A child with LD would require adapted curriculum to be taught mainly through task analysis, concretization of experiences, practice and repetition of the skills taught. All these could be taught in a resource room too. Children with severe- profound LD generally require support in self-care, functional literacy, training in vocational skills and above all compassionate attention. Further, a child with a learning disability would require specific interventions/ remediation in certain content areas to be taught by a trained teacher using specific techniques and specific teaching- learning material.

Remedial teaching

A very important part of a resource teacher is to do remedial teaching. Resource room can be used for this purpose. For e.g., if a child is not performing at an expected level in one subject, then the child can be given remedial teaching with the help of specialized teaching learning material in the resource room. Specific strategies can also be used by the resource teacher to teach these children.

Training of teachers

The resource room should also be used for training of teachers on LD. The teachers through this training would be exposed to the screening and identification of LD, difference between LD, slow learners and mild mental retardation, different types of LD, classroom management, teaching techniques, behaviour management, etc. The room can also be used for providing therapeutic and counselling services to the children.

Parental counselling

The resource teacher can also do some parental counselling by advising the parents to accept their children, even if they have special needs. One of the biggest barriers to education of children with learning disabilities is parental attitudes. A large number of parents do not believe in value of educating such children. One of the tasks of the resource teacher is to apprise parents of the true potential of children with LD and encourage them to have realistic expectations from these children because they have very low expectations from these children. Once the parents learn to accept their child, the resource teacher can then give some essential tips to provide stimulation to these children in the home environment. Capacity building of the parents is extremely essential for effective care for children with LD.

Community training

The resource room can also be used for training community members on inclusive education. States need to consider engagement of IE volunteers at GP level or one volunteer for 10 CWSNs basically to create a cadre of key resource persons and provide them training to take care of the identification and educational needs of LD. The resource room could also be used to impart this training.

Teaching use of basic equipment

The resource room can also be used to keep equipment pertaining to each disability, including LD. This can be used to train children with LD on their basic use or used to impart certain skills to these children. The resource teachers can also train general teachers and parents on the use of such equipment.

Joint problem solving between the resource teacher and the general teacher

The resource room could also be used as a place to jointly discuss the educational plan of a child with LD. Both resource teachers and general teachers can meet in a resource room on a weekly or monthly basis depending on the situation and the need and make critical decisions regarding a child with LD. The resource teacher and the general teacher should consult with each other to evolve better plans and strategies of working with children with LD. Both the

teachers should collaborate with each other to provide inputs and guide the training and programmes of learning disabled children. Consulting also helps in exchanging student progress information.

Preparation of teaching learning material by the resource teacher

Children with LD also require some teaching learning material. For e.g., children with learning disabilities improve upon their learning efficiency, if visual aids are used. Hence, resource teacher should be equipped to make flash cards, charts, pictures, models and provide any other material which can aid children in their learning. These could be prepared in a resource room.

The resource room as a model of inclusive education is most effective in providing special educational support to CWSN. The uses of a resource room are many and if properly developed and used, it can become a very strong form of providing resource support to children with LD. **Hence, the States should earmark adequate resources for this purpose, including funds for transport allowance, travelling allowance for the parents and CWSNs and for appropriate educational, rehabilitational, technological aids, material and software's.**

Teaching Learning Material (TLM) Bank

Teaching learning material is an essential tool for providing an enriching learning experience to the child: a learning environment in which the child explores the phenomenon around him/ her and arrives at his/ her own answers. Also, there is a need to be sensitive to the natural inclination of children while developing an activity around any material. Children like to play, run, explore and discover on their own. It is important that the learning experience gives the child an opportunity to go through this process. Thus, for creating a meaningful learning opportunity it is not only imperative to have effective teaching learning materials, but also to develop an activity around the material keeping in mind the total learning process.

Some of the TLM that can be developed/ procured by teachers for children with LD under SSA are can follows:

No.	Teaching Learning Material	Block/ cluster	School
1.	Overhead projectors.	√	√
2.	Tape recorders.	√	√
3.	Clock (Time perception).	√	√
4.	In order to improve learning disabled children, perceptual, listening, comprehension reading,	√	√

	writing and arithmetic skills worksheets/ workbooks / picture boards / charts / slides are needed.		
5.	A pencil grip to aid in writing skills.	√	√
6.	Educational toys to promote figure ground discrimination, part whole relations, visual closure, spatial orientation etc. Need to be selected.	√	√
7.	Sand slates, plasticine, pattern weaving aids, blocks, models of letters numerals, patterns (Joining shapes etc.) are a few examples.	√	√

10.5 ROLE AND COMPETENCIES OF A RESOURCE TEACHER

Under SSA, resource teachers are being appointed specifically to take care of the needs of children with disabilities including learning disabilities. Resource teachers are specially trained teachers in special education who have the knowledge and the expertise to understand the needs of children with LD. The following is the role and competencies of a resource teacher.

Role of Resource Teacher

- Functional assessment
- Preparation of teaching learning material
- Suggesting curricular adaptations
- Make important suggestions and recommendations
- Modify academic assignments
- Co-teach general classrooms
- Provide spot tutoring
- Do remedial teaching
- Parental counselling
- Design specific teaching activities
- Prepare individual educational plan
- Regular monitoring
- Collaborate with general teacher on a regular basis

The brief descriptions of the above are given below:

Functional assessment

This means identifying and assessing children with LD. The assessment process simply implies evaluating the child on his/her level of performance, identifying problems either academic or behavioural and making important decisions about the child. This information can be obtained with the help of checklists, observing the child's behaviour and assessing his performance on assignments done in home and school.

Preparation of teaching learning material

Children with LD also require some teaching learning material. The resource teacher can prepare visual aids for children with LD. A resource teacher should be equipped to make flash cards, charts, pictures, models and provide any other material which can be used as an aid for children in their learning.

Suggesting curricular adaptations

A resource teacher should be able to suggest some curricular adaptations for children with LD. For e.g., if a child has memory problems as in the case of learning disabilities and mental retardation, the child should be taught with the help of charts, models and pictorial illustrations. In case of child with dyslexia, the resource teacher can suggest using large prints so that the child is able to discriminate the letter/ number formation.

Modify academic assignments

In some cases, especially if the child has learning or attention problems, the academic assignments might have to be modified. These include breaking the tasks into smaller units, giving them more time to finish the assignments if need be and testing these children on small portions of the content curriculum.

Co-teacher in general classrooms

Both the resource teacher and the general teacher can teach in the classroom as a team. The general teacher can teach the academic content, whereas the resource teacher can observe the students, provide one-on-one instruction to special children and monitor the classroom management.

Provide spot tutoring

This simply means that the resource teacher can provide academic assistance to the children with learning disabilities. The teacher can provide individual instruction to the child. The instruction can also be provided using co-operative learning techniques where children work in small groups to achieve success in a manner that promotes learning of all the students. The teacher can also use peer tutoring in which one student teaches another on a one-to-one basis.

Do remedial teaching

A very important part of a resource teacher's job is to do remedial teaching. This simply means giving the child remedial instruction in the content areas in which the child is not performing at the expected level with the help of specialized teaching learning material in the resource room. Specific strategies can also be used by the resource teacher to teach these children. For e.g., while teaching a child to read, a resource teacher might use the remedial strategies. One strategy can be that both the resource teacher and student read aloud together. The teacher points each word while reading. As the child's pace of reading increases, the teacher can stop reading. The student can then read on his own by pointing to each word as he reads it.

Parental counselling

The resource teacher can also do some parental counselling by advising the parents to accept their children, even if they have special needs. Once the parents learn to accept their child, the resource teacher can then give some essential tips to provide stimulation to these children in the home environment.

Community mobilisation

The community at large is often unaware of the potential of children with LD. In the popular mind, children with LD are usually identified with very low expectations. It should be the responsibility of the resource teacher to be an ambassador of children with LD. Advocacy based on concrete facts and examples should be an important duty of a resource teacher. Only in this way, can community opinion be brought in favour of helping and mainstreaming children with special needs. In the connection the Village Education Committees/ School Management Committees being formed within SSA can play a very important role.

Peer sensitization

It has been established that acceptance by peers generates a better self-concept among children with LD and the relationship between school performance and self-concept is well established. Acceptance can be done through peer sensitization which should be one of the major responsibilities of the resource teacher. Warm interpersonal interaction removes prejudice much more easily than any other method. Therefore, resource teacher must encourage interaction between children with LD and other children in the classroom.

Designing specific teaching activities

The resource teacher should also prepare some activities for the children to help them learn better. For e.g., reading/ language comprehension can be enhanced in the children by using pictures and visual aids. The teacher can hang picture of a object on the board. The student can be asked to say a short story related to the object. The teacher writes 2-3 sentences from the story on the board. The teacher and the students read the story aloud together as the teacher points to each word as it is said.

Preparation of individual educational plan

This is Individualized Educational Program for every child with learning disabilities. The IEP must state the child's current level of performance, annual and short-term objectives, the special services which the child needs, dates for beginning and ending these services, the activities in which the child can participate with ease in the regular classroom and the criteria for evaluating progress.

Regular monitoring

The resource teacher should also monitor regularly the progress of children with special needs. This is necessary to evaluate whether or not the activities/ strategies used with these children are helping them learn or not. If not, a change in the mode of teaching might be needed.

Collaboration with general teacher

The resource teacher and the general teacher should consult with each other to evolve better plans and strategies of working with children with LD. Both the teachers should collaborate with each other to provide inputs and guide the training and programmes of children with LD. Consulting also helps in exchanging student progress information.

10.6   REFERRAL AGENCIES

There are many agencies in the country working for Learning Disabilities. They mainly deal with the following areas:

- Identification and screening of children with LD
- Assessment of children with LD
- Training of teachers on LD
- Developing special educators for LD
- Specialized support to LD
- Remedial teaching/ day care help to children with LD
- Advocacy and awareness on LD

The following agencies are working in the area of LD. These could be contacted for any problem concerning LD:

Orkids
E-123, Kalkaji
New Delhi-110 070
Phone #: 9811477777

Educare
M-2, Hauz-Kaus

New Delhi-110 016
Phone #: 011-26565061

Ode Learning Centre
321, Sector 6, Panchkula
Phone # 0172-6548193

Madras Dyslexia Association
No. 15, Sambasivam Street,
T. Nagar,
Chennai-600 017
Phone #: 044-28156697, 28157908

Maharashtra Dyslexia Association
101, Amit Partk,
423, Lala Jamnadas Gupta Marg,
Deonar Farm, Mumbai-400 088
Phone #: 022-556 5754

M.D.A. Bahai Centre
C/O The Bahai Centre,
Court Chambers, 1st Floor, (Opp. Blossoms School)
New Marine Lines, Churchgate, Mumbai

The Sophia-Rotary Resource Room for Learning Disabilities
Sadhana School Building
Ground Floor, Sophia College Campus,
Off Bhulabhai Desai Road, Mumbai-400 026
Phone #: 022-367 6590

Alpha To Omega Learning Centre
3/176, Kazhipattur Village Road
Samanathuvanagar. Padur Post. (Off Old Mahabalipuram Road)
Kancheepuram District, Chennai-603 103
Phone #: 044-27497208

Alpha To Omega Learning Centre
58, New Avadi Road,
Kilpauk, Chennai-600 010.
Phone: 044-26443090, 044-26476257

Association of Learning Disabilities India- ALDI
Nallankara-Trissur District
Kerala
Phone #: 0487-2336817

Society of Rehabilitation of Communicative and Cognitive Disorders- SRCCD
Prashant Nagar
Trivandrum District
Kerala
Phone #: 0471-2440232

Spastic Society of Karnataka
31, 5th Cross, Off 5th Main
Indira Nagar, 1st Stage
Yelahanka, Bangalore District,
Kanakapura, Bangalore Rural District
Karnataka-560 038
Phone #: 091-080-5274633

Samveda Training and Research Centre
610, 7th Main, 5th Cross,
P.J. Extension, Post Box: 258
Davangere-577 002
Karnataka
Phone #: 91-08192-237057

Organizations to be contacted in West-Bengal for LD
Indian Institute of Cerebral Palsy
35/1, Taratala
Kolkatta-88
Manovikas Kendra
Rehabilitation & Research Institute for the Handicapped
482, Madudah, Plot: 1-24, Sector: J, Eastern Metropolitan Bypass,
Kolkatta-700 107

Mon Foundation
C/o Mon Nursing Home
VIP Road, Block-D, No. 25,
Najral Ishlam Avenue
Kolkatta-700 052

10.7   ACCOMMODATIONS

One of the important aspects of teaching children with LD is evaluation of their learning needs. Evaluation of LD calls for certain learning specific considerations. Learning disability brings in its wake certain needs, which have to be addressed if they have to be fully included in a regular classroom. The method of assessing the learning needs of a particular child will

depend on the nature and extent of his/her disability. The teacher may have to show considerable imagination and creativity in determining how to assess the learning achievement of a child having a specific kind of learning disability.

Similarly, children with learning disabilities have problems in learning and hence, their assessment should be as concrete as possible. Certain accommodations also need to be given to children with LD. For example, objective type tests may be given by using flash cards, pictures or actual objects. These children also need to be given extra time as they take time to think and express themselves. They should be assessed more on the basis of content than on language.

Accommodations are simple procedures that a teacher can use in his/her classroom without impinging heavily on the time available, especially in a rural setting. This can then made part of the teacher training module/ package, developed by the States on Inclusive Education (IE). The accommodations developed under SSA specially for children with LD are given below:

General Evaluation Techniques/ Accommodations for LD in SSA

- Extra time may be provided, as per the needs of the child. Breaks may be allowed during this time to counter fatigue

- Use of devices to be allowed as per the individual needs of the child e.g. calculators, abacus, communication board, slant boards, pencil/ pen grips, etc.

- Use of technology e.g. computers, tape recorders, voice synthesizers to be allowed as per the needs of the child

- Flexibility in syllabus allocated for testing. For example, if the child is learning at a slower pace, s/he may be tested on smaller units of content rather than the whole syllabus at one time

- Assessment procedures may include objective type questions, instead of essay type questions for children with difficulties in language acquisition, questions to be modified e.g. simple language

- Accommodations are to be provided in the area of response methods. Example, oral responses instead of written (can be taped) or amanuensis to write down answers, which would be given orally or through a communication board

- Instructions and questions to be read out to student when needed

- Print size to be enlarged according to needs of students

- Suitable posture and seating arrangement to be made by providing adapted chair/table and separate room, if required

- Timing of evaluation may be necessary, where children are on specific regular medication.

- Disabilities which have language acquisition problems may be exempted from the 3-language formula. Sign language can also be provided as an option.

Specific Accommodations for Children with LD in SSA

- The language used in the question paper should be simple.

- The difficulty level of the questions framed for evaluation of children with mental retardation should be at the child's level of understanding.

- Time for answering questions should be extended. Breaks may be allowed to counter fatigue.

- Flexibility should be given to use appropriate teaching learning material for the purpose of evaluation of these children, wherever required. For example use of concrete material, flash cards, visual aids, pictorial illustrations etc.

- The children with LD should not be penalized for punctuation/spelling/ grammatical errors. But they should be told about the errors made

- Fewer number of questions should be given to such children, if required

- Questions should mainly be objective type/ multiple-choice/ pictorial, if required.

However, a larger issue is with the States conducting Board exams for Classes V and VIII. In this case, the matter of evaluation and accommodations for children with LD might have to taken up with the State Boards.

Check Your Progress

Notes : a) Space is given below for your answer.

b) Compare your answer with the one given at the end of this unit.

E1. Fill in the blanks:

a) SSA has adopted a ………….. rejection policy.

b) Individual needs of children with special needs are taken care in …………………………..

c) One of the biggest barriers to education of children with learning disabilities is ……………………….

d) Functional assessment is the role of …………………..

e) Acceptance by peers generates better …………….among children with learning with disabilities.

E2. List the name of five referral agencies working for learning disabilities.

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10.8   UNIT SUMMARY

This unit has introduced you to the use of resource room and resource teacher for children with LD. As a teacher in SSA, you would have to take the help of resource teachers and to generate awareness on learning disabilities. A child with a learning disability will need resource room to learn specific skills. These children will need specific intervention if they have educational problems in the areas of reading, writing, math's and language or behavioural problems such as in attention, impulsivity and hyperactivity or social problems. Students with learning disabilities will also needs certain accommodations in teaching and evaluation which have to be borne in mind by the resource teacher, school administrators and parents. No school can deny or reject admission to a child just because she/he is a LD. There are also many referral agencies which work on different aspects of LD. These agencies should be contacted if you have any particular problem while dealing with children with LD in your classroom.

10.9   ANSWERS TO CHECK YOUR PROGRESS

E1.   a) zero

       b) resource room

       c) parental attitude

       d) resource teacher

       e) self concept

E2. Please refer to 10.6

E3. There should be a bit modification in general evaluation techniques in certain aspects for children with learning disability like; i) provide extra time as per the need of child; ii) allow intervals to counter fatigue; iii) devices like calculators, abacus, communication board, slant boards, etc may be provided to children; iv) flexibility in syllabus allowed for testing; and v) more focus may be given to objective type questions.

10.10   ASSIGNMENTS

Q1.   Prepare a detailed IEP based on the assessment of a child with learning disabilities.

10.11 REFERENCES

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4. Lerner, W. (1981). Learning Disabilities. Theories, Diagnosis and Teaching Strategies. Houghton Mifflin Company. Boston. USA.

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6. Responding to Children With Special Needs–A Manual for Planning and Implementation of Inclusive Education in Sarva Shiksha Abhiyan (2006). Akashdeep Printer, Darya Ganj, New Delhi.