FOUNDATION COURSE ON EDUCATION OF CHILDREN WITH DISABILITIES

(FC - SEDE)

Understanding Education for Children with Disabilities

BLOCK

2

MADHYA PRADESH BHOJ (OPEN) UNIVERSITY
AND
REHABILITATION COUNCIL OF INDIA

MPBOU (FC-SEDE) PROGRAMME

FOUNDATION COURSE ON EDUCATION OF CHILDREN WITH DISABILITIES

BLOCK : 2

UNDERSTANDING EDUCATION FOR CHILDREN WITH DISABILITIES

EVALUATE

A PROGRAMME OF COLLABORATION OF

MADHYA PRADESH BHOJ (OPEN) UNIVERSITY

AND

REHABILITATION COUNCIL OF INDIA

March 2008

Publication No: MPBOU - (FC-SEDE) - 3

Third Edition

MPBOU (FC – SEDE) Programme:

Course Code	:	FC-SEDE
Name of the Course	:	Foundation Course on Education of Children with Disabilities
Block – 2	:	**Understanding Education for Children with Disabilities**

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FOUNDATION COURSE ON EDUCATION OF CHILDREN WITH DISABILITIES

BLOCK

2

UNDERSTANDING EDUCATION FOR CHILDREN WITH DISABILITIES

BLOCK : 2 – UNDERSTANDING EDUCATION FOR CHILDREN WITH DISABILITIES

INTRODUCTION

Every disability whether it is physical, sensory, cognitive does interfere with the normal process of teaching and learning. It is the responsibility of the teacher to try to understand the needs of every child with disability and devise innovative means of optimising the child learning. No matter what the disability, every child does retain substantial potential for learning. Conditions for optimising learning in the classroom and outside has to receive special attention. This could be done by adopting joyful learning to teach and making the presentation simple, concrete and interesting.

Certain children may require plus curricular activities. For example, children with seeing problem may need to read braille, large print or listen to recorded tapes. Hearing impaired children may need good hearing aid, auditory training and learning to express concepts through speech. Similarly, special teaching techniques may be needed for children with mental retardation.

There are certain common factors applicable to all children. The teacher has to bear in mind, among other things, the following factors:

1. residual ability of the child;
2. individual differences.
3. technological aids available to enhance functional abilities of the child;
4. acceptance of the child with a disability by peer and the administration;
5. aptitude;
6. total school and community environment.

OBJECTIVES

After studying this Block, you will be able to:

- understand better the factors that profoundly influence the learning process;
- identity the strength and weakness of every child and device special techniques or teaching learning materials to enhance and enrich in learning process;
- identify educational implication of children with each significant impairment and develop competencies to teach effectively and develop plus curriculum activities and TLM for the children with each type of disabilities;
- be aware of different types of schools and models of education for children with disabilities;
- adapt curriculum to suit their needs;
- understand what equipment to use with different kinds of disability and in what situations;
- understand how to make local TLM.

UNIT - 1 : FACTOR AFFECTING LEARNING

STRUCTURE

1.1 INTRODUCTION

This chapter will provide a broad overview of the factors affecting learning. Nature and severely of the disability of the child may limit the child's ability to learn in the ordinary way. He may need accessible reading material, special aids and appliances and motivation to optimise his learning. This Unit will provide a broad overview of important factors influencing learning.

1.2 OBJECTIVES

After studying this Unit, you will be able to

- understand better the factors that profoundly influence the learning process.
- appreciate individual differences between children.
- identity the strength and weakness of every child and devise special techniques or teaching learning materials to enhance and enrich in learning process.

1.3 INTELLIGENCE

Intelligence is a global phenomenon closely associated with enriched learning adaption to the environment and observing what is taught. Memory may be a part of intelligence, it includes retention processing of information and recall. All these processes are indispensable for schoolwork as well as life in the community.

The expression of intelligence may be to some extent hampered by various disabilities. The modes of adaptation in learning may also vary. A child who has the necessary intelligence can easily adapt himself to the environment and to the method of teaching of the teacher. The intelligent child not only understand what has been taught but is also motivated, interested and get joy in the learning process.

Experiences shown that joyful learning is the best form of learning. An intelligent teacher may adopt child centered teaching approaches. He may also use peer tutoring, group teaching, cooperative teaching, and other newer methods of teaching. The use of these methods will not only enhance the motivation of the children but will also encourage them to engage in self-discovery.

1.4 APTITUDE

Aptitude is the inclination or interest of a child in a particular area. Moreover, most children are oriented to best learning through vision, through hearing or though touch. It is necessary for a good teacher to identify the specific orientation of each child and design TLM and his total presentation to suit the orientation of various children. This orientation may be particularly influenced by the nature, severity and type of the disability of the child. For example, blind child can not be visually oriented. Although to some extent this may be possible for a low vision child.

Similarly, a child with rigid ~~musscles~~ muscles or with involuntary movement and owing to brain damage may find it very difficult to use touch as a means of learning. Therefore, the teaching strategies, to some extent, be influenced by the nature of disability of the child. Further many children may be interested in acquiring academic skills. Other may be more interested in doing manual work. Moreover, even in academic area some children may have a preference for learning languages while others may be good in maths or social studies. The teacher will need to bear in mind the special attitude, interest and preferences of every child and adapt teaching methods which can meet the need of his/her students.

1.5 TEACHER ATTITUDE

A classroom having children with disabilities calls for considerable innovativeness on the part of the teacher. A teacher with a positive attitude towards students can adapt better than one with indifferent or negative attitude. Therefore, a teacher must learn to adopt a very positive attitudes towards his/her students. Motivation is a strong factor in shaping attitude. Motivated teacher is flexible and adaptable. Unmotivated teacher may not be able to be innovative and adaptable.

In a regular classroom, where there are only a few children with disabilities the teacher needs to be very positive towards them. He/she must recognise the latent potential of every child and learn skills of activating that potential.

How can this be done. This can be done through appropriate training. A teacher of visually impaired children may have to acquire at least rudimentary knowledge of braille and use of magnifies as well as proper use of various mathematical devices. Similarly, a teacher of Cerebral Palsy (brain damage) children may have to learn a few things about speech therapy. The facilitating skills needed by a teacher will depend on the nature and severity of the disability of his pupils.

1.6 PEER ATTITUDE

Society believes that children with disability can not study or play with ordinary children. This attitude has held so long that it has become a part of the conditioned behaviour of many children. therefore, peers are not always inclined to accept children with disabilities as equal. Many myths and misconceptions prevail about disability. Some believe that disability may be infectious. Other may

believe that the behaviour patterns of children with disabilities should not be imitated. Still others may think that peers with disabilities can not engage enjoyable play activities.

It is a duty of an enlightened teacher to try to eradicate such negative attitude. Children are usually prone to modeling. Therefore, a teacher should provide an ideal role model. If a teacher adopts positive attitude, the peers will automatically learn and imitate the teacher's attitude.

No specific efforts will be needed. But it will be an asset, if a teacher gave a few examples of success of students with disabilities having academic achievement to their credit. Peer tutoring have now been well recognised as the good teaching practice. This can not be done without peers interacting warmly and reacting constructively to their peers with disability. Only one who accepts disability as a normal variation in life can help children with disabilities. Negative attitudes may hamper cooperation.

1.7 SOCIO-ECONOMIC ENVIRONMENT

The Socio-economic environment of the child at school, at home and in the community is an important determinant of his living patterns, his aptitudes, his abilities, his strength and weakness. Academic achievement may, for example, be closely associated with socio-economic status of the parents. If a child with disabilities is a first generation bearer, he may encounter special problems acquiring academic skills. In the absence of adequate motivation at home his strength and abilities may go unrecognized or un-reinforced. The more a child's achievements are positively reinforced, the more they are likely to sharpen. This may be difficult for parents who have never been to school. All children need parental approval. This may only be grudgingly given by parents who have themselves never acquired academic skills.

Parents who are engaged in mechanical work may unconsciously transmit these skills to their children. For example, quite often, the son of a carpenter may want to become a carpenter. A son of a farmer may aspire to be perhaps a better farmer. The son of a shopkeeper may be interested only in making money. Son of a motor car driver may want to become a bus driver.

Many girls even after they acquire academic skills wish to become housewives because their mothers and grand mothers have done so. Thus the kind of nurture a child gets may profoundly influence his/her aptitudes and aspirations. The situation will be somewhat more complicated if the child has a significant disability. Vocation choices may be somewhat limited. Careful matching of the children's abilities and available occupations may need to be done by trained teacher to ensure that every child with a disability is prepared for congenial occupation.

1.8 UNIT SUMMARY

The learning process of a child with disabilities is influenced by a variety of factors. These factors include teacher attitudes, peer attitudes, the child's own aptitudes and the socio –economic environment in which the child is placed.

The skill of the teacher may facilitate or obstruct learning. Advances in modern technology have brought forth a crop of devices which can enhance the learning of the child with disabilities. The teacher and the child must both be acquainted with utilisation of modern technology and locally prepared teaching learning materials.

1.9 CHECK YOUR PROGRESS

1 Describe briefly the main factors influencing the learning of a child with disabilities. Please read the following statement and choose the correct answer.

(i) Visually Impaired Child can not go to regular school

(ii) Can go to a regular school, if supporting services are provided

(iii) He/She can only go to open school

2 An attitude is a

(i) A consistent reaction

(ii) Inconsistent reaction

(ii) No reaction at all

3 Learning depends on

(i) Intelligence

(ii) Parental Attitude

(iii) Peer Attitude

1.10 ASSIGNMENT

Give brief case history of a child with a disability who followed his father in choosing his occupation

1.11 POINTS FOR DISCUSSION AND CLARIFICATION

After going through the Unit you may like to have further discussion on some points and clarification on other. Note down those points below

1.11.1 Points for Discussion

1.11.2 Points for Clarification

1.11 REFERENCES / FURTHER READINGS

UNIT – 2 : UNDERSTANDING EDUCATIONAL NEEDS OF CHILDREN WITH DISABILITIES

STRUCTURE

2.1 INTRODUCTION

Children may suffer from a number of impairments, which call for adaptation of teaching strategies, provision of special reading materials, teaching of plus curriculum skills or use of special assistive devices. These will be broadly discussed in this Unit. Special attention will be paid to the educational needs of children with *Visual Impairment, Mental Retardation, Hearing Impairment, Locomotor Impairment and Cerebral Palsy, Specific Learning Difficulties and Multiple Disabilities*.

2.2 OBJECTIVES

After studying this Unit you will be able to

- identify educational implication of children with each significant impairment,
- teach effectively children with all major types of disabilities,
- develop plus curriculum activities and TLM for the children with each type of disability.

2.3 DIFFICULTY IN SEEING (VI)

Lowerfelt B (1974) describes the following three major limitations imposed by serious visual impairment.

1. *Restriction in the range of variety of experiences.* This means that in the absence of vision the child with server visual impairment may be deprived of such experiences as the ordinary child has without effort. To illustrate, a young seeing child may look at an orange, jump to pick it up, feel it, smell it and eat it. At one go, he has visual, auditory, tactile, gustatory and smelling experience. On the other hand, a serosly visually impaired child may have great difficulty in locating an orange. He will be able to locate it if it is within the range of his grasp, or within the reach of his arm. In this way the ordinary child easily get a total experience, where as a visual impaired child has a limited experience. His experience in range can be enhanced only by supplementary tactile or auditory inputs given by teacher or parents

2. *Restrictions on ability to get about.* This means that a seriously visually impaired child may have difficulty in moving about independentlty in unfamiliar environment. Why is this so? Because sight does not give the child the total framework of the space in which he moves. Therefore, determining the direction of movement poses special problems. This is particularly difficult in large open spaces. Further detection of obstacles in the way may pose serious problems. He/She may run the risk of injury.

3. *Restriction in control of environment in relation to one 's ownself.* To illustrate it is not easy for a seriously visually impaired child to read facial expression. Reinforcement of positive behavior may be denied to him if he can not read the face of his mother to whether she is happy. Parental approval is strong positive reinforces.

Another difficulty, which a seriously visually impaired child may experience, is incidental learning. Let us consider what this meas. When an ordinary child enters a class room, at one glance he knows how many children are sitting or dresses they are wearing, how many boys and how many girls, how many tall or short, where the blackboard is located, what kind of table the teacher has etc. The visually impaired child can not do so. He has to be given special orientation by someone to acquaint him with the contents of the classroom.

Orientation is meant to build in the mind of the child and acquaint image of the object or environment shown to him/her. When a visually impaired child enters in the same classroom he is not getting total feedback. He is depending on the image formed in his mind yesterday. This has significant educational implications. Orientation must be repeated often to update experience.

One major difference in the learning styles of visually impaired and seeing children is that while the visually impaired child depends largely on past experience, the seeing child is getting fresh feedback every time he enters the classroom or any other room.

Another educationally significant difference in sight and touch is that sight is a holistic sense. It provides information at one glance, where as touch is an analytical sense. For example, if you show only one drawer of a table to a visually impaired child, he or she will be able to describe only that drawer and that too only if that drawer base been shown bit by bit and an accurate image built in the child's mind of that drawer. Information gathering range of touch is limited. Therefore, if you want a Visual Impaired child to build an accurate image in his mind of any object, you should show it to him bit by bit till he has synthesized the image in his mind.

Hearing is also a distance sense like vision, but it is less specific. For example, it may tell you, where the sound is coming from, the nature of the sound, some guess of what is giving the sound. But it gives no information about the size, shape and colour of the object from which the sound is coming. While hearing has immense importance in learning language, its usefulness in spatial orientation is minimum.

Smell is also a distance sense, but with much more limited range. It too gives no information about the shape, size and nature of the object from which it is coming.

Taste is a close sense. It gives you partial information about the size and shape of the object.

The kinesthetic sense gives you extremely limited information about size and shape. It only helps you to judge whether it is heavy or light.

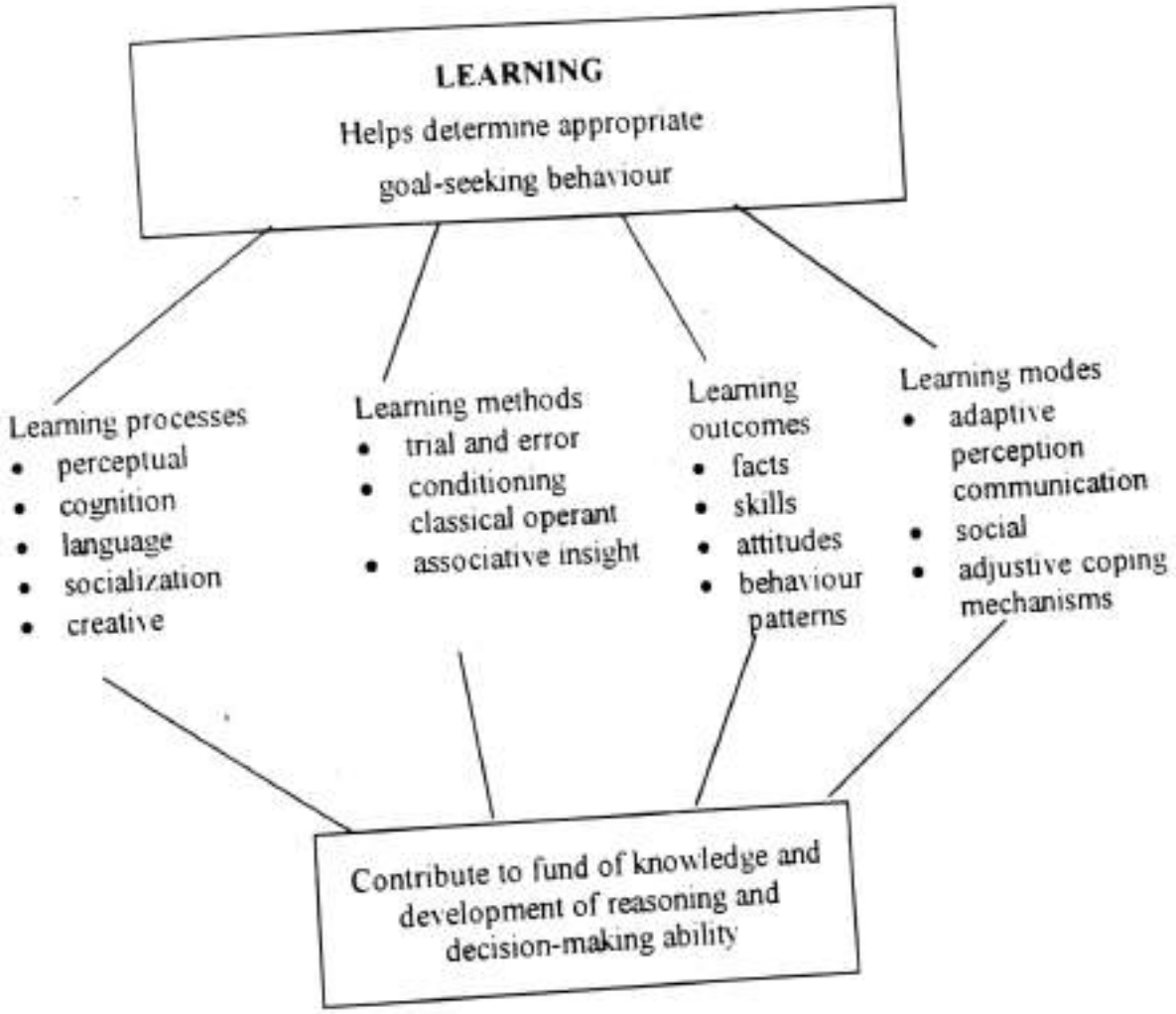
But please remember that multi sensory training is of great importance in the education of visually impaired children. Proper processing of inter sensory information will be a very significant extent compensate for the loss of vision.

2.4 DIFFICULTIES IN LEARNING (MR)

Persons with mental retardation have limited capacity to learn due to the brain damage. To call a persons 'intelligent', he should have the ability to attend, should have memory, abstract thinking, problem solving and ability to generalize. Persons with mental retardation have impaired/inadequate abilities in these areas. When these vital cognitive skills are impaired, it will adversely affect the performance of the person in daily living routine activities as well as task involving complex decision making. Let us see how it leads to performance difficulties and influence other areas of development.

2.4.1 Learning in Non-retarded Persons

Learning is fundamental to quality life. All of us have a need to learn those aspects that will help us to survive and actualize in our culture and environment. The more complex the society or culture in which we live, the more facts and skills we must learn to be able to have comfortable life. Therefore, every one must develop the processes of learning which includes our visual, auditory, tactile, sensory channels, reasoning, thinking and problem solving abilities (cognitive) and expressive skills of language, gestures and/or writing skills. These learning can occur through trial and error, conditioning or insight. Trial and error is doing, learning from mistakes, correcting and re-doing. Conditioning involves getting used to 'if ... then' – cause-effect understanding. Insight is through developing reasoning ability and association. All these are used in adjustive, adaptive or coping behaviour. We as human beings have the freedom of choice in initiating behaviour and decision making. Behaviour can be learnt or innate.



Most behaviour are learnt, or initiated on the basis of learned elements. Adaptive beahviour is a change in behaviour that helps one to meet environmental demands. Coping behaviour is a learned action that permits an individual to live with unwanted circumstances. For example, adaptive behaviour is hailing from a village and learning to live in a city. Coping behaviour, learning to live with the grief of loss of a loved one. Every one has the potential to adapt/cope to overcome obstacles using his thinking and rearranging – cognitive abilities.

When we say that a person is intelligent he generally has the abilities to: 1. learn, 2. deal with task involving abstractions effectively and 3. deal with new situations. A mentally retarded person as you have known, has limited abilities in these areas. Therefore, his ability to learn to live independently is also limited.

2.4.2 Problems in Learning by Children with Mental Retardation

You would have seen people who look like anyone of us. However, if you continue to watch the person, you will find that the activities he carries out are not age appropriate – that is, looking grown up, but behaving like a child, not able to talk clearly, indulge in such acts that are not appropriate to age, time and place. If you watch him closely, for a long time, you do realize that he is different from

us though he looks like any of us. One of the reasons for this condition can be mental retardation. The term mental retardation simply means limited development of the mind, which leads to difficulty in carrying out various tasks expected of their age. The extent of difficulty in doing the tasks depends on the degree of damage to the brain during childhood (upto 18 years).

Depending on the degree of retardation, the persons with mental retardation exhibit certain difficulties in learning. Some of the problems in learning are given below.

2.4.2.1 Poor language development

Many persons with mental retardation have communication difficulty. Their ability to understand and express are limited. A profoundly retarded person may never speak while a mildly retarded may use 2-3 word sentences with limited word usage.

2.4.2.2 Difficulty in paying attention

All of us have the ability to filter out unwanted stimulus (details) in our environment and focus on what we want to listen, see or do. A persons with mental retardation may find everything around him attractive to him and therefore may want to attend to all of them at a time. As a result, every task he undertakes remains incomplete or he shifts quickly to another one, when you are teaching him a certain task. In other words, he is easily distracted. This certainly interferes with learning, because every learning activity as a first step needs student's attention.

2.4.2.3 Problem solving

Everyday we come across problems in daily routine – some small, some big. However, we find solutions and carry on with the activities. Confronted with the same problem, two of us may deal with it in two different ways, depending on our exposure, ability, resources. A persons with mental retardation has difficulty in finding solutions to his problem. Further if a problem can have more than one solution, he may not be able to decide which is the best solution. For instance, if he misses the bus one day, 'what to do?' 'wait for next bus', 'Walk', 'take an auto', 'Go back home'. There can be more solutions. But our mentally retarded youngster can have difficulty deciding what to do. Therefore, problem solving and decision making skills need focus in our training.

2.4.2.4 Poor memory

While they are slow to learn, many a time remembering learnt skills is found to be difficult in a mentally retarded person. If the learnt skill is put to use everyday, like self-feeding, bathing and so on, he may remember. But, if the skill is not used everyday, he may tend to forget. For instance, if you have trained a mentally retarded person in pickle papad making, he may do well to your satisfaction. As this activity is seasonal, next year when you involve him, you may find that he has forgotten and you have to begin teaching again. While selecting skills to teach, make sure they are put to use constantly.

2.4.2.5 Difficulty in understanding abstraction

Children need concrete examples for learning when they are young. As they grow up, they understand abstract terms. A retarded person has difficulty in understanding abstraction even as an adult. Terms like left-right, far-near, yesterday-tomorrow, next week, last week and such other abstract terms are difficult to teach. Therefore, you should try to have visual cues wherever possible. Also try and convert abstract statement into concrete ones. For instance, if the retarded person does not know right

and left for wearing slippers tell him see whether the toe rings of the slipper are next to each other before wearing This is concrete and will help him wear without error

2.4.2.6 Needs repeated instruction

Anything told once is not easily understood by a mentally retarded person and needs to be told a number of times Be brief and clear in your statements

2.4.2.7 Poor understanding of cause-effect

Mentally retarded persons learn experience based activities better Therefore explaining cause-effect such as **if** you touch the utensil on fire it will hurt you is not easily comprehended by them All health and safety activities must be carefully planned

2.4.2.8 Inability to generalize

What is learnt in one situation a retarded person does not easily apply in another situation For instance if he is taught to peel cucumber he will not apply the same skill naturally for peeling radish or carrot It needs to be taught again, though with a little less effort

2.4.2.9 Impulsivity

Many-a-time we resist from doing certain acts which we wish to do considering its inappropriateness to the context When a lecture is going on if you feel like eating you will resist won't you? A retarded person may tend to do instantly what comes to his mind This characteristic many a time is considered as problem behaviour Such as laughing to self beating pinching others throwing things We should find out what provokes him to do so and correct the behaviour

2.5 DIFFICULTIES IN COMMUNICATION / HEARING (HI)

2.5.1 Introduction

Deafness is inability to hear and understand conversation and speech in most situations This also prevents the normal natural process of acquisition of language and speech in early childhood Both blindness and deafness are sensory deficits and both the blind and the deaf are disabled at a functional level in their own ways But a blind person attracts society's immediate attention and sympathy On the other hand deafness remains a hidden handicap till a deaf child person tries to communicate with other persons or vice versa The deaf person outwardly looks so normal that the lay-public cannot realize the extent to which this impairment can create difficulties for him

An effort has been made in this unit to help the readers to see and understand the problems arising out of **hearing difficulties** from different angles and perspectives This should help all those who are involved in educating the deaf child i e the parents teachers and other professionals to realize the disability that deafness imposes and to find ways of reducing its adverse effects in order to promote the child's learning in as many directions as possible The teacher will be able to do his/her job well only when he/she can understand the exact nature of the handicap and realize that the needs of children will vary according to the child's level of deafness and his environment (Except the Unit on Deafness and Associated Disabilities in Block 3 in Paper I the rest of the Units in Paper I and II mainly refer to straight forward deaf children with severe to profound hearing losses)

2.5.2 Effects of Deafness

Learning for young children is a social activity where new skills and understandings are gained through interaction with both adults and their peers, i.e. the people around them.

2.5.2.1 Communication Disability

Severe to profound hearing loss, mainly in the case of a pre-lingually deaf child, imposes a communication disability on him. The infant/child is deprived of the natural everyday input of language that every hearing child receives from his mother at home and his immediate environment. The direct result of this is language deficiencies which involve severe to total absence of language and speech. A deaf child's thinking capacity is generally intact. He can see everything and understand a few things. But on his own, because he cannot hear, he cannot learn the words that represent these. He also cannot learn the way sentences are formed to express complete thoughts. He may try to use gestures to express himself but may not always be understood by others, nor can he understand the signs and gestures used by others beyond very simple directions and explanations. Unless very special effort is made to provide words / language for the signs / gestures that are used, the child will never learn language. Consequently his knowledge base will also remain very impoverished.

2.5.2.2 Effects of Deafness on Various Aspects of Development

The language retardation in the deaf child seriously affects the various aspects of development such as cognitive (understanding and knowing, in general, thinking, reasoning, solving problems etc.) speech, social and educational development. All these aspects of development are almost inextricably interdependent. Therefore, the progress or deficit in one area will invariably affect the other areas.

- **Educational Aspect** - Deafness itself does not affect a person's intellectual capacity to learn, yet deaf children generally require some form of special schooling and training to gain adequate education. Since the child's education in school will almost entirely depend upon the child's mastery of language, his inability to hear will greatly hinder his intellectual development and educational/academic achievements in the absence of early appropriate measures of intervention.
- **Social Aspect** – Owing to difficulties in communication that is of language comprehension and expression, the child/person is very likely to feel mentally isolated, frustrated, suspicious of everyone and everything and will tend to resort to withdrawal from social situations.
- **Psychological Aspect** – There may be a degree of maladjustment in behaviour depending upon number of factors such as home background, innate abilities, emotional stability, additional disability, etc.

2.5.2.3 Primary and Secondary Effects of Hearing Impairment

In **Dr. Daniel Ling**'s words, " *Hearing impairment, if sufficiently severe, has numerous primary and secondary effects on the human.*

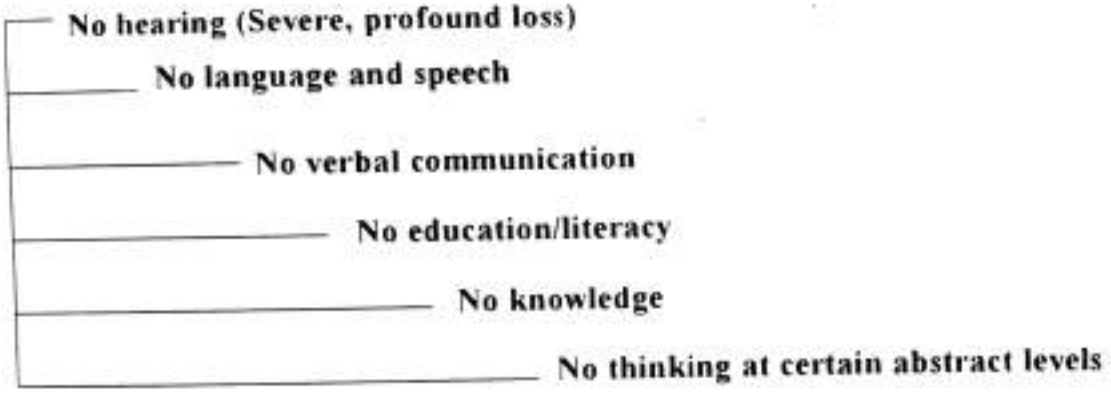
Its primary effect *is the restriction it can impose on acquisition and use of language in communication.*

Its secondary effects ***are more widespread and (particularly because of inappropriate measures of habilitation) can include impoverished communication that restricts experience, hinder personal / social development, and prevent optimal educational attainment.***

*The **third level of adverse effects** is found when the child is due to leave school. Poor educational attainments will restrict employment options, limit income and circumscribe leisure activities.*

***These restraints** can, in turn, substantially reduce the quality of a person's life in a myriad of ways. The effects of hearing impairment are not limited to the afflicted individual. Such effects extend to the family of the person and to the society at large."*

Simply put, without early intervention and quality training and education for years, it will invariably be like:



Many cognitive and social aspects of human life are affected.

- **Early intervention through the use of hearing aids.**

Rapid advances in electronics and technology have given us access to high quality hearing aids suitable for different types and varying degrees of hearing impairment. Fitting these aids at very early age, coupled with intensive auditory training and active parent participation has yielded good results in a number of cases. (For details please refer to Paper III, Block I & II – Audiology.)

- **Communication Through Sign Language**

A number of studies of the 'Development of deaf children of deaf parents' have shown that an early use of sign language for interaction between the parents and the child facilitates communication required for the child's overall growth. This leads to better adjustment of the child to his surroundings and everyday dealings, emotional stability and satisfactory cognitive development.

(For details please see Paper – I, Block – II)

2.5.3 How Do We Learn

Our senses are the gateways to learning. We acquire information and knowledge that one gains through experience through the distance senses – **hearing and vision**, and the close senses – smell, touch and taste. Of these, we are constantly in touch with our environment through hearing because we cannot close our ears completely, not even in sleep. Also, sound signals reach us from all around whereas visual signals are received only from what is in front of us

and when our eyes are open and focused on it. However, most of what we know of the world external to us is learned through distance senses and the languages that the most people know are normally acquired through hearing (except the sign language of the Deaf which is a visually based system of communication as against the auditory based spoken languages)

2.5.3.1 The Primary and Secondary Signals That Provide Information

In animals too, same as in human beings, information about the environment is provided through the five senses – the first/primary signaling system. Both human beings and other primates (such as apes, dolphins, etc.) have an inborn ability to think, perceive and mentally process (i.e. to analyze, reason, form concepts, solve problems etc.) the information received from the environment through these senses. In addition to this, man also has the ability to receive and interpret the secondary signals namely the words of a language. Words are mainly the arbitrary spoken symbols, which stand for almost everything that we perceive through our senses and these are stored in our brain along with the rules of language for ready use. Words also enable us to store in our mind/brain the labels for concepts, which are the results of our conscious, as well as unreflective thought processes.

The word 'arbitrary' means there is no direct connection between the word symbol and the actual object that it represents, e.g. the concepts of action or objects refered in different languages are the same but the words are different, e.g. 'kairi' in Gujarati, 'aam' in Hindi, 'awakaya' in Tamil, etc. for the object/concept of 'mango', or 'daud' in Hindi, 'pal' in Marathi, 'dodvu' in Gujarati, for the action of running. In man however, the secondary signals i.e. language, later serves as the main source of information and a most efficient tool for intellectual functioning.

2.5.3.2 Communication and Language: Main Distinguishing Feature Between Man and other Animals

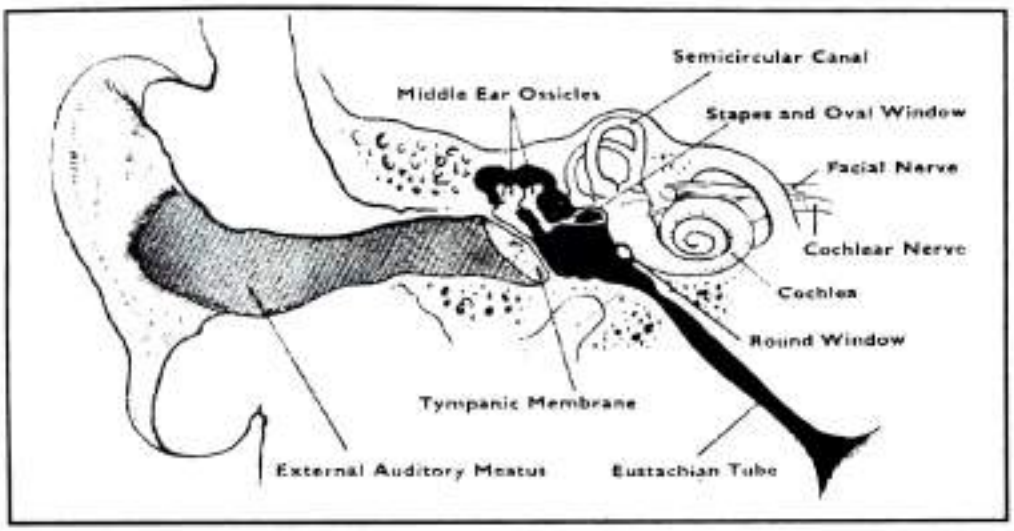
In the living world, besides man, several animals do communicate with one-another. But possession of language is probably the most important distinguishing feature between man and other animals. Animals are seen to use some sound signals, but these are extremely limited and completely non-productive, e.g. parrots do not create novel sentences and dogs do not understand complicated commands. As against this, man has the ability to reproduce the word symbolically through language, which sets him free from his immediate temporal and spatial environment. This allows man to think and talk about not only here and now, but also about things and events from a distance and from the past and the future. Then again, animal communications are genetically transmitted. They are completely determined by the genetic structure of the animal. Therefore the crows all over the world will crow the same way and all bees will use the same system of the genetically acquired dance with only occasional variation among different colonies of bees. On the other hand, human beings in different parts of the world speak different languages, and although the potential to learn is genetically acquired by man, the details of the linguistic system must be learned anew by each speaker. Only Man has the inborn ability, brain potential to learn language the complex system of verbal language **mainly through the sense of hearing.**

2.5.4 How We Hear And How Deafness Is Caused

2.5.4.1 The Ear

The ear is one of the most delicate parts of the body and can easily be damaged

There are three main divisions of the ear



The figure of the ear

- The **outer ear, which is the part,** we can see and which leads to the ear canal going down to the eardrums that cannot be seen easily
- The **middle ear**, which is the other side of the eardrum. It contains 3 little bones linked together which move as a unit along with the eardrum. The eardrum vibrates when the sound waves press on it, and the 3-bone unit passes on these vibrations to the adjoining inner ear
- The **inner ear** is a very complicated organ. It receives and sorts out all the vibrations as different sounds, so that the brain, through the auditory nerves and the auditory pathway, can receive them and after processing, interpret them

Damage to any of these parts including the **auditory area in the brain** itself, can cause deafness.

2.5.4.2 Types of Deafness

- **Conductive Deafness:**

Functionally, the outer and middle ears form the conducting apparatus whose function is to carry the sound to the inner ear. Thus any damage to these parts prevents sound wholly or partly, from reaching the inner ear and resulting deafness is termed conductive deafness. This kind of deafness often responds to medical treatment. Also, a person with conductive deafness can hear and understand speech when it is loud enough.

- **Sensory Neural Deafness:**

The inner ear is the end organ of peripheral hearing. Damage to this apparatus creates deafness, which is termed as **'sensory-neural deafness'.**

Sensory-neural (and central) deafness cannot be cured by medicine or surgery but can be alleviated, that is the loss caused due to the damage can be lessened, only through use of amplification devices and other modalities of teaching language, training at home and through special education.

- **Mixed Hearing Loss :**

Sometimes a child might have both sensory-neural and conductive deafness i.e. mixed hearing loss. In such cases, the conductive part of the deafness only can be treated. However, new devices such as the 'Cochlear implant' are now being surgically installed in a deaf child's /

person's inner ear in selected cases as a remedial measure to sensory neural loss. (Details are given in Paper No 3 ,Block No 1.)

- **Central Hearing Loss :**

This is an abnormality in the central nervous system from brain damage or disease.

2.5.4.3 Terms Used in Classification of Hearing Impairment

A brief glance at the classification, which is discussed in detail in other Units, will help to get a better picture of hearing impairment.

Hearing impairment is termed by different professionals in different ways. It is related mostly to how it helps them to deal with deafness.

Medical professionals and audiologists are mainly concerned with the diagnosis of the exact degree and type of deafness and then based on this diagnosis, provide medical or surgical help if possible and also provide suitable amplification devices (hearing aids) to the hearing impaired person. Accordingly,

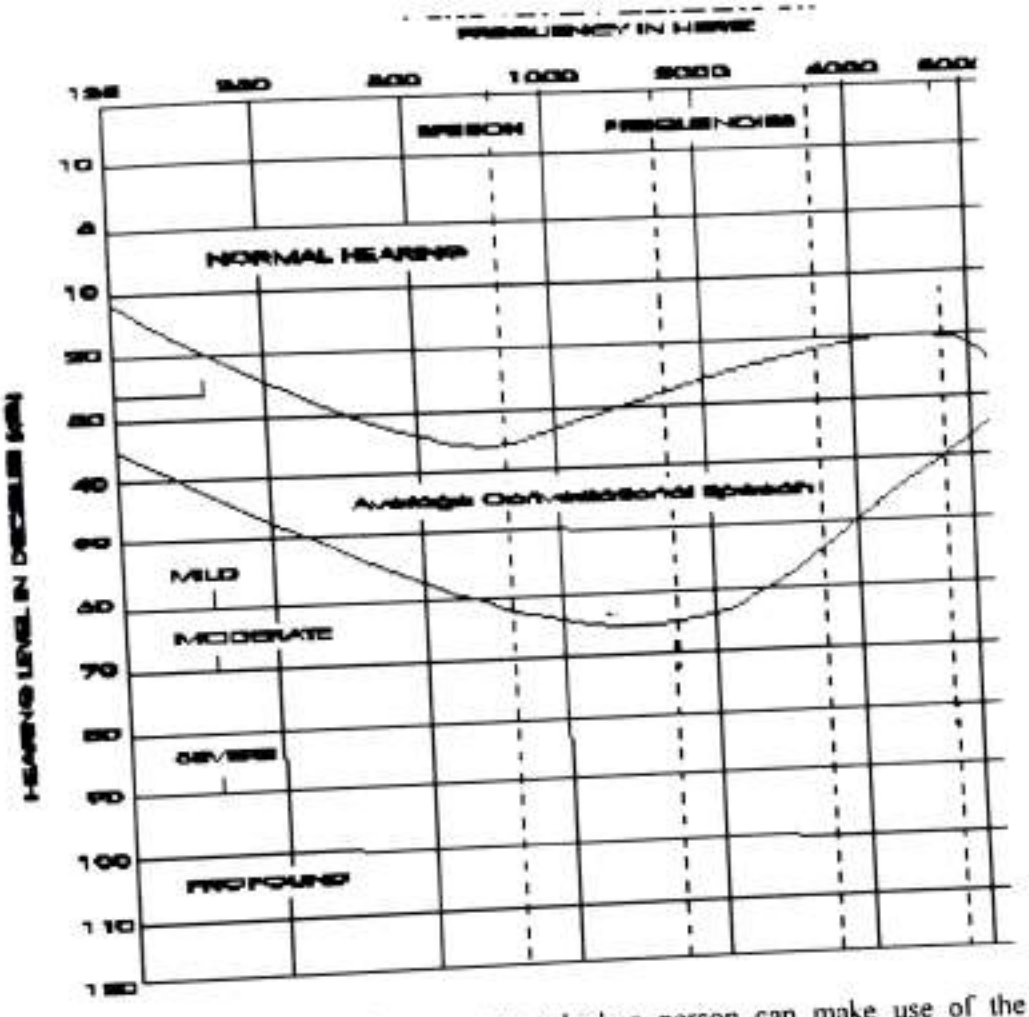
Terms used in Medical Profession and Audiology :

- Medically / Audiologically, hearing loss, as per the nature of the loss, is termed as
  - i conductive
  - ii sensory-neural
  - iii mixed
  - iv central

- Deafness has a degree, some children are totally/stone deaf who just cannot hear any thing, while others can have a varying degree of ability to hear sounds.

The degree of hearing loss is termed as

i	mild	26 - 40 dB
ii	moderate	41 - 55 dB
iii	moderately severe	56 - 70 dB
iv	severe	71 - 90 dB
v	profound	Greater than 90 dB



These terms approximately indicate the extent to which a person can make use of the residual/ remaining capacity to hear sound and then how he can function in the Society. Hearing aids of different types are available to suit the varying degree and type of hearing loss.

A person with **mild or moderate loss** will be able to hear speech in quiet surroundings if it is sufficiently loud. A person having **severe to profound loss** may not be able to acquire language and speech adequately sometimes even with the use of hearing aids. The degree of hearing loss and the time of its onset are important in determining the effect of the impairment upon the personality, psychological and educational development patterns of a hearing impaired person.

- **Terms used in Education :**

Educationally hearing loss is termed on the basis of the stages in a child's development when the loss occurred

i congenital / from birth

ii pre-lingual – before the acquisition of language by a child

iii post-lingual – after the child has acquired language

iv post-vocational

These terms indicate to what extent a person can make use of the residual /remaining capacity to hear sound and how he can function in the society These stages will decide the severity of the problem that the child / person will face in his life

2.5.4.4 Causes of Deafness

The main causes of deafness are heredity, accident and illness In about 50% of all cases of deafness, genetic factors/heredity are probable cause of deafness. Environmental factors (accidents, illness, auto toxic drugs etc) are responsible for deafness in many cases Rubella or other viral infections contracted by the pregnant mother may deafen an unborn child Hazards associated with process of birth, e g a cut-off in the oxygen supply may affect hearing Illness or infection may cause deafness in young children Constant high noise level can cause progressive and eventually severe sensory-neural hearing loss. Similarly, tumors, exposure to explosive sound, injury to skull or ear could lead to deafness

2.5.5 The Factors that Influence a Hearing Impaired Child's Normal Development

A Hearing Impaired child (mainly who suffers from severe to profound hearing loss) needs to spend considerable time on learning language and speech as communication skills that will help him to gain education and develop social skills

Principal factors affecting the child's progress are

- Age of onset of hearing impairment

  Degree and type of impairment
- Age of discovery of impairment and age of diagnosis
- Age at which effective intervention was begun

  Effective use of hearing aids and/or use of other communication modalities to suit the child's needs
- Mental ability
- Personality
- Home and surrounding environment
- Guidance to parents and their ability to follow guidance
- Parental support
- Quality of teaching in schools

2.5.6 Psychological Aspects Of Deafness –Need For Understanding

Deafness is a serious handicap Unless we take steps to prevent its ill effects right from early childhood, a deaf child's development will be influenced adversely from early infancy by his defective hearing Not only the deaf child himself but also his family and the community around him are affected

2.5.6.1 *The child*

- Tends to get isolated from normal life.
- Is cut off from many of the experiences and opportunities that hearing children enjoy, e.g. voices associated with people, dishes tinkling which means food, singing and rhythm of music, the mother's loving voice and the guidance, comfort and reassurance that follows from the words, etc.
- Has to make constant and considerable efforts to achieve things that come easily to the hearing children.

2.5.6.2 *The Family*

- Has to make efforts to understand what the handicap exactly means to the child, how it impinges on his life.
- Has to work out ways of lessening its effects and promoting the child's learning in as many directions as possible.
- Has to realize clearly that the parents are the first teachers of the child and nobody can contribute as much as they can in the natural setting of their home.
- The siblings of the deaf child too may vary in their behaviour towards the deaf child. Sometimes they have to, at a young age, take the responsibility of caring for their deaf brother/sister.

2.5.6.3 *The adolescent and the other deaf*

The adolescent years are a trying time for all children and more so for the deaf child. The possibility of tension within the family increases. The adolescent deaf often experiences difficulty in establishing a personal position within a family structure. It is during these years that the child is trying to establish his own identity and maintain and develop relationships. "Who am I?" "Where do I belong?" "How do I fit in?" "What am I worth as a person?" are all very important questions faced by all adolescents including deaf ones. Establishing peer groups becomes critical. There is increased dependency on verbalization among peers and the deaf adolescent often feels isolated and a burden to his family. It is therefore during this period that the adolescent deaf, together with the family, is subject to strong psychological and ~~societal~~ Social pressures.

2.5.6.4 *The grand parents*

The grand parents have difficulties to overcome a denial stage because they have to bear a double pain. They have to get over the pain of having a deaf grand child as well as their own child who is a suffering father or mother and help in what ever way possible to promote the progress of the deaf child.

2.5.6.5 *The community at large*

Many a time, the general public is unaware of this unseen but formidable disability of deafness. Community awareness programmes will help to minimize its effects to some extent.

2.6 DIFFICULTIES IN MOVING (LI, CP & SPINAL INJURY)

Children with locomotor difficulties have limitations imposed by the disability in the form of moving sitting for long deviation, writing, if their hands are affected, taking care of their daily need such as toileting, participation in play activities Children with severe locomotor impairments may also suffer from problem of behaviour, integration with other childrens Most of the children with locomotor impairments use some gadget like caliper, crutches or wheel chair for his/her mobility Some children may also be taking medicine for their problem specially children suffering from leprosy or having associated problem of fits Children suffering from locomotor impairment like spinal injury, may have additional problems like not having proper control over their urination and bowel evaluation Children suffering from Cerebral Palsy may in addition to having the above mentioned problems may also have associated hearing speech, visual or mental retardation which are described under the respective impairments

In order to mange to provide education to locomotor impaired children the teacher has to first understand the limitations of the child by interaction with the parents and possibly the local doctor under whose care, the child is taking the treatment Secondly, along with knowing the limitations of the child, it is also important for the teacher to know about the special abilities of the child with moving difficulties because some such children may be extra brilliant than even the able bodied children

After knowing the limitations, and the special abilities of the child the teacher can help the children with moving disabilities to attend the education in a better way The important things to be kept in mind by the teachers are as follows

1 Regular interaction with the parents of locomotor impairment child in order to have a regular feed back from them regarding his competence in the activities of daily living, his behaviour at home and participation in the social activities In case of any parent having any problem in bringing the child to the school due to his restricted mobility, it should be sorted out so that all the children suffering from locomotor impairments can attend the school

2. Watch every child carefully and find out about the child s behaviour in the class, so that if any child is having unwanted behaviour, you can correct it In order to correct the unwanted behaviour try to ignore it, so that child does not repeat it again When the child shows wanted behaviour give a reward each time, when the child behaves well Then gradually the child will stop behaving in unwanted way

3 In order to social integrate, locomotor impairment children in the class, tell the other children about the disabilities It may be by way of a disabled person coming to the class and talking to them about disability Tell the able bodied children stories about the disabled children who have achieved something in life You can also practice role play in the class so that able bodied children develop positive attitude towards the children with disabilities This will help in better social interaction of these locomotor impaired children in the class it will also help the disabled children to make friends in the class and they will feel more secure and accepted in the peer group

4 The children with locomotor disabilities using the aid and appliance, should be taught how to use them properly so that they can walk and function in a better way with minimum energy consumption

5. Never try to over protect , the children with locomotor disability neither they should be treated as inferior to others. This should also be suitably explained to other children in the class so that they do not develop the habit of demanding extra attention.

6. In the classroom, a child with difficulty in moving may not need any attention. In case of severe disability, they might need extra physical assistance. This problem can be solved by pairing such child with a child having no disability and asking him to assist the disabled child. If it is not possible, then you may have to seek the help of a volunteer from the community to which the child belongs to.

7. While teaching in the class, make sure that the children can see you and hear you when you teach or write something on the blackboard. Some children may have problem of weakness of the hands due to which they are either slow in writing or not able to write themselves. You have to identify such children and provide them either extra time or arrange for a volunteer to write for him.

8. The teacher should always encourage physical activities in the school for all children. It helps to keep them healthy and fit. It may be that disabled children are not able to participate fully in a particular physical activity.

9. Teach the children about the role of cleanliness and how it helps in keeping them healthy. Also teach them to clean their teeth, to wash their hands, to take bath daily so that they are better accepted and also do not get other illness.

10. Children should also be taught how to prevent accidents at home and in the school and teach how to be careful to prevent the injuries.

11. Children should also be taught about traffic rules and to cross the roads. To do so, they can be taken to the road side and explain to them how and when to cross the road. It will help to prevent them from any road side accident.

12. Some children who are having problems of feeling in the hands or feet, like the children suffering from Leprosy should be taught about the role of sensation and feeling of pain and how they can prevent them from injuring their senseless part of the body.

13. Some children who are not able to hold the ordinary pencil or pen because of weakness of grip may be provided with some adaptation so that they can hold it and write themselves.

Undertaking the above precautions, you will be able to overcome the problems of children with locomotor impairments, cerebral palsy and spinal injury, and, assist them in achieving their education goals so that they can become independent adults and are able to go for work and earn for themselves. They will also be able to learn as to how to get along with others and how to behave, how to make friends. In this way they can become useful members of the community.

2.7 SPECIFIC LEARNING DIFFICULTIES

Specific learning difficulties may usually be caused by minimum brain damage. They have to be distinguished from first generation learners who may also exhibit temporary symptoms of difficulties in reading, writing and counting but generation learners do not usually show attention deficit on hyper activity.

Estimates A incidence in India vary from 10 to 15 percent of the school going population. Study conducted by the institute of neurology in Kerala estimated the incidence of 10%. Another study conducted by Samveda at Bangalore estimated the incidence at 15% of the school going population.

Some studies have shown the incidence to be 1 to 7 %. At any rate the incidence is large and major cause of school drop outs. Therefore, understanding the educational needs to meet them is a crucial importance for a teacher.

Types There are many kinds of specific learning difficulties, the major ones includes:

- *Dyslexia* (Problem in reading): This is a condition in which a child while reading may omit, substitute or reverse the letter and words.
- *Dysgraphia* (Problem in writing): In this condition, the child is unable to write constantly, his handwriting clumsy and improper spaced.
- *Dyscalculia* (Problem in calculating): The child may have much difficulties in making manual calculation.
- *Attention deficit hyperactivity disorder* (Problem in paying attention): In this condition span of attention is very limited and he is restless. He is inclined to pay attention to irrelevant stimuli. He shows considerable amount of hyperactivity. The child cannot sit even for a moment.
- *Dysphasia*: This is a language disorder.

  There are two types of Dysphasia

  (I) Child is unable to use language meaningfully.

  (II) The child is unable to understand spoken word.

Task Analysis

The teacher can choose a learning task appropriate for the child to master and the terminal objective should be stated in behavioural terms. The terminal goal is broken down into incremental steps arranged in order of complexity, with each item being a prerequisite for the subsequent one until the terminal goal is reached.

Structured lesson presentations

Students with learning disabilities achieve more when lessons are clearly presented, well sequenced and well organised. Explanations should be concise and clearly understood with the key concepts highlighted.

Organised Equipment and materials

The teacher must organise the equipment and materials needed before starting a lesson. The teacher should also ensure that the equipment and materials are relevant and can be understood by the students.

Peer Teaching

In this strategy, one student who has proficiency in a skill teaches another student with the teacher's supervision. In this technique, one student teaches another student [illegible].

Multi-sensory approach

The multi-sensory method is based on the premise that some children learn best when content is presented in several modalities. Frequently, kinesthetic (movement) and tactile (touch) stimulation are used along with the visual and auditory modalities. In this approach, the child may feel, see and hear the content. The multi-sensory programs that feature tracing, hearing, [illegible] and [illegible]

often referred to as VAKT (visual-auditory-kinesthetic-tactile) To increase tactile and kinesthetic stimulation, sandpaper letters, finger paint, sand trays raised letters and sunken letters are used

Writing

Allocate time for writing instruction A sufficient amount of time should be allocated to writing instruction (e g four times per week) because students can learn and develop as writers only by writing

Expose students to a broad range of writing task Students should participate in writing activities that present highly structured problem-solving situations as well as activities that involve self-selected and expressive writing

Maths

Use manipulative devices such as buttons and beads Let the students drop beads into a clear plastic cup as he/ she counts so that he/she can see how many beads represent the number The child also gets auditory input to support this concept

Attention Deficit Hyperactive Disorder

Reward the student for being prepared by allowing him/her to participate in favourite activities, conferring classroom privileges (like making the child monitor of the class)

Establish routines for placing objects – especially routinely used objects such as books or assignments

Point out to the salient features of the assignments (topic sentences, headings or table of contents)

Provide the student with a list of materials needed for each task Limit the list to only those materials necessary to complete the task Enhance the clarity of instructions Repeat as often in a clear, calm tone

2.8 MULTIPLE DISABILITY

A person who has combination of two or more certifiable handicapping conditions whose impact is so severe that the educational needs of the person can not be met in a programme designed for the separate handicapping conditions

Characteristics of Persons with Multiple Disabilities

Best & Brown (1994) use the term 'multi-sensory impairment' to describe a situation rather than a condition, the situation being characterized by an individual being unable to :

- Gather sufficient information from the environment to learn independently;
- Make sufficient use of the environment to function independently

Other characteristics of multiple disabilities are

a. Children with severe or profound learning disabilities have particular difficulty in separating relevant cues from irrelevant aspects of the environment (Ashman & Conway, 1989)

b. Children have problems in retaining information in short and long term memory

c. It disrupts the processing of information and their abilities to organise problem-solving responses to a situation (Muldoon and Pickwell, 1993)

d There is interference in the basic abilities of early communication which include making eye contacts and attending toan interpreting facial expressions and body gestures (Kiernan et al, 1982)

e It affects interactive relationship with parents and caretakers who may be unable to understand the child's needs or intentions (Beveridge, 1989)

f Have acquired splinter skills – may have some high level skills but not able to do other more simple things

g Such children need very structured instructions

h They need a variety of supporters a large and diverse support system.

i They have trouble with abstract thinking

j They need to learn small steps with a lot of patience

k Each child has her own temperament and her olwn set of experiences (Erin, 1995)

l Each child may be affected in different ways by a medical condition or physical disability (Erin, 1995)

m It makes it almost impossible to predict how much any child will learn and what she will be able to do as an adult (Erin , 1995)

Impact of Multiple Disabilities

According to de jong (1992), population of persons with multiple disabilities may be considered to represent two categories of needs ' The key words used to describe these categories are "additive" and "interactive"

Additive Impact

Within this group, the impact of two or more disabilities on living and learning can be considered as additive or the sum of the impact of the separate disabilities Approaches for persons with one of each of the represented disabilities can, therefore be used in combination An example of an individual representing this category is the child who is visually impaired and has lost his legs due to amputation This child can be provided lower prosthesis and taught through the same methods used to ~~tech~~ teach other visually impaired children

Interactive Impact

Within this group, the impact of two or more disabilities on living and learning can be considered as interactive Thus, a combination of approaches from the single disability area would not be adequate to severe this persons needs, rather, a specific approach must be used An example of an individual representing the category described as 'interactive' is the child with visual impairment and cerebral palsy The spasticity resulting from the cerebral palsy precludes the use of a tactile method which is traditionally used with a visually impaired child As visual approach would be ineffective for this child a new and unique approach must be developed

Needs of Individuals

A team approach should be used to design and implement a comprehensive programme for each individual. The team should be composed of a variety of professionals, family members and other caregivers. Mohit (1995) also advocates that keeping in view the diversity of needs and all relevant factors including onset and extent of disability, the age of the child, the socioeconomic status, family attitude and so on, a range of professional interventions, service delivery approaches and curriculum approaches are essential for implementing a comprehensive programme for each VIMD child.

According to Paul (1995), the multi-disciplinary team may consist of

- Special Educator
- Physiotherapist
- Occupational Therapist
- Low Vision Specialist
- Speech Therapist
- Audiologist
- Orientation & Mobility Specialist
- Psychologist
- Vocational Counsellor
- Social Worker, and
- Family members

It is essential to remember that each VIMD child is unique with his/her own distinct set of problems, learning abilities and residual skills.

2.9 UNIT SUMMARY

- The ordinary child easily get a total experience, where as a visual impaired child has a limited experience. His experience in range can be enhanced only by supplementary tactile or auditory inputs given by teacher or parents.
- As we have seen earlier, persons with mental retardation have limited capacity to learn due to the brain damage. To call a persons 'intelligent', he should have the ability to attend, should have memory, abstract thinking, problem solving and ability to generalize. Persons with mental retardation have impaired/inadequate abilities in these areas. When these vital cognitive skills are impaired, it will adversely affect the performance of the person in daily living routine activities as well as task involving complex decision making.
- Deafness is inability to hear and understand conversation and speech in most situations. This also prevents the normal natural process of acquisition of language and speech in early childhood. Both blindness and deafness are sensory deficits and both the blind and the deaf are disabled at a functional level in their own ways.

- Children with Locomotor difficulties have limitations imposed by the disability in the form of moving, sitting for long deviation, writing, if their hands are affected, taking care of their daily need such as toileting participation in play activities. Children with severe locomotor impairments may also suffer from problem of behaviour, integration with other childrens. Most of the children with locomotor impairments use some gadget like caliper, crutches or wheel chair for his/her mobility. Some children may also be taking medicine for their problem specially children suffering from leprosy or having associated problem of fits. Children suffering from locomotor impairment like spinal injury, may have additional problems like not having proper control over their urination and bowel evaluation. Children suffering from Cerebral Palsy may in addition to having the above mentioned problems may also have associated hearing speech, visual or mental retardation which are described under the respective impairments.
- Specific learning difficulties – usually caused by minimum brain damage. They have to be distinguished from first generation learners who may also exhibit temporary symptoms of difficulties in reading, writing and counting.
- A person who has combination of two or more certifiable handicapping conditions whose impact is so severe that the educational needs of the person can not be met in a programme designed for the separate handicapping conditions.

2.10 CHECK YOUR PROGRESS

VI Area

1 Name three major limitations imposed by serious visual impairment.

MR Area

2. Narrate any two problems which affects learning in children with mental retardation.

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3 Describe a mentally retarded person whom you have seen highlighting atleast three problems in learning the following sub-unit.

HI Area

4 State the effects of deafness on the functioning of a deaf child /person.

5 Explain the terms.

- Prelingually Deaf
- Postlingually Deaf

- Deaf & Dumb
- Heterogeneity in the deaf population
- Primary signaling system and secondary signaling system of communication

6. Explain the similarities and differences in the life-style of the adult deaf and the hearing adult population

LI Area

7. Can the teacher effectively teach without understanding the limitations of the child with locomotor impairment

2.11 ASSIGNMENT

1. Make a study and prepare a report what special attention will be paid to the educational needs of children with any of the following impairments

- Visual Impairment
- Mental Retardation
- Hearing Impairment
- Loco-motor Impairment and Cerebral Palsy
- Specific learning difficulties
- Multiple Disabilities

2. Identify educational implication of children with any significant impairment

2.12 POINTS FOR DISCUSSION AND CLARIFICATION

After going through the Unit you may like to have further discussion on some points and clarification on other. Note down those points below

2.12.1 Points for Discussion

2.12.2 Points for Clarification

2.12 REFERENCES/FURTHER READING

The preschool and primary teachers lay the foundation for education of a child on which his whole life is built. Hence, there is little need to overemphasize the role of the teacher at this age. Her commitment, creativity and ability to teach is of utmost importance for successful integration of disabled persons in the society.

Following are readiness activities for children with mental retardation. Though some activities are listed in line with the 'School Readiness' requirement of normal children, it is cautioned here that all children with mental retardation will not learn at the same pace. The teacher has to aim at ensuring mastery of the skill in the child though children take their own of time to achieve the mastery. Taking suggestions from this guide book, the teacher can develop her own activities.

4.3.2.6 Leisure and Recreational Activities

Leisure and recreational activities have a place in school curriculum apart from regular academic learning. Planning of recreational activities are important for bringing out innate creative abilities in children. A non handicapped child is able to plan and select leisure time activities for himself at home, at school and in the neighbourhood, apart from the structured, organized leisure activities by the school teachers and family members. Where as a retarded child is not able to either plan or actively participate in activities planned by non disabled children due to the lack of initiation and skills. Generally, the main leisure activity for them is to watch Television or listen to music and sometimes indulge in self-stimulatory activities such as rocking. Hence, there is a need to provide opportunities to children with mental retardation to spend their leisure time at home, at school, and in the neighbourhood and community by planning appropriate activities.

Planning of co-curricular activities is an integral part of school curriculum whether it is for non-handicapped or handicapped children. All of us need some time to spend in leisure and recreational activities such as listening to music, reading novels, magazines, drawing, painting, stitching, seeing pictures, attending musical shows, gardening, etc. Children develop hobbies based on their interest and encouragement from elders and teachers. In case of children with mental retardation, as mentioned earlier, we need to plan suitable activities for them to suit their abilities. Hence, we need to make a conscious effort to plan appropriate games, sports and art and craft activities for children with mental retardation.

4.3.2.7 Sports and Games

There are certain rules that need to be followed when we participate in sports and games. We need to remember the teaching principles and strategies while planning and training children with mental retardation in sports and games.

Points to remember

- Select the simple exercises in the beginning which involve only two steps. Increase the steps gradually as children learn to do two steps.
- To motivate children are give colour flags, colour ribbons to hold while doing exercises. Some times, it may be a distractor for children who are overactive. Avoid using them if you find children are distracted.
- Use a thick rope or draw a white thick chalk line to stand on the line for any type of races when you teach.
- Prepare them to follow different types of instructions to start the race (whistle, flag, saying one, two and three).

- Introduce games with simple rules
- Modify the games to suit the needs of children. For example, the snakes and ladder game available in the market can only be played by children who knows numerals upto 100. How many children with mental retardation will have that capacity? The same game can be modified in such a way that a child who knows numbers below 100 can also play the game. Similarly other commercially available games can be modified to suit the ability of children with mental retardation
- Plan games that sharpen concentration and memory, logical reasoning and judgment, sense of sight and touch

We often hear form parents of children with mental retardation that their children cannot remember for long what they learn and what they are told to do. Varying amount of attention and concentration is required for learning any activity. Concentration means paying attention on an activity for a longer periods of time. No learning takes place if we do not pay attention. You can plan certain games that improve concentration and memory. Some of the games are listed below.

Games that sharpen concentration and memory

1) Picture Observation

Place 20 pictures of considerable variety on a table top and cover them with a cloth. Have your child go to the table for one minute as the cloth is removed and study the pictures. Then cover the pictures again and ask the child to try to identify and describe most accurately what he or she has just seen.

2) Window Judgment

This game is good on a long walk. Have the child look in a shop window for two minutes and then try to memorize as many objects as possible.

3) The Lost One

Have one child in the group leave the room. While that youngster is out, have another child leave the room, too. The first child is called back and has to identify who the missing child is within ten seconds.

4) Hidden Treasure

Give each child pictures of small objects that are hidden throughout a room. The children then have to look and find the objects. The youngster with the longest correct list of objects is the winner.

5) Word Hunt

The object here is to teach children the art of quick recall. Divide the group into two teams. Call off a category (animals, flowers, food items) and then a letter. The first child to call out a word or name that fits into the right category and that begins with the letter mentioned, scores a point for his or her team. The first team to score ten points wins.

Games that faster the development of Logical Reasoning and Judgment

Logical thought is controlled thought and since this is the basis of the application of judgment and reasoning, the child's level of mental ability must be take into consideration, otherwise one may expect

either too much or too little for the child. If one attempts to develop self-maintenance skills in the child, the youngster must be taught to utilize judgment effectively in many areas.

Logic is the art of thinking well. The mind, like the body, requires that it be trained before one uses its powers in the most advantageous way.

1) Missing Parts

Draw simple pictures and leave out on essential part. Have your child draw in the missing part. Try a house, a tree, and a person for starters. Then try household articles. Have the child name the part that is missing as well.

2) What is Similar

Here is a quick, simple way to introduce your child to the world of abstract thinking.

Play the game while you cook dinner or when your child is getting dressed, picking up toys, or eating a meal.

"A cup and a glass. What is different about them?"

"A shirt and a shoe. What is similar about them?"

"A pencil and crayon. What is same about them?"

3) What should I do?

Ask the child "What should I do?" For example, ask, "Oh, I am tired, what should I do?" Your child answers "You should sit down."

Other questions might be "I am hungry, what should I do?"

"I am thirsty, what should I do?"

Games that improve Kinesthetic abilities and visual motor skills

1) Atlas Walk

Have the child balance a book on his or her head and then walk rapidly to a turning point and back. If the book falls, it may be replaced, but otherwise hands may not touch it. Have the child try to walk a little bit faster the second time.

2) Pick a Card

Prepare a set of cards with a different direction on each card and place the cards face down on a table. Have the child pick a card, read it, place it face down again and then follow the direction given.

Examples of direction you might want to use are:

Drink some water.

Open the door.

Take off your coat.

Do not run, walk.

Fly like a bird.

Games that stimulate the sense of sight

1) What did you see

Prepare a tray of small objects - pen, pencil, button, crayon - and cover the objects with large cloth or sheet of paper. Remove the cover for a few seconds while the child looks at the objects. Replace the cover and say "Tell me one thing you saw". This continues till all the objects are name

2) Quick change

Remove an item - toaster etc or change things around - a radio and a clock, when the child is not looking. See if the child spontaneously notes the change. If not, ask "What looks different in the room"

3) Window shopping

Take the children for a walk and have them look in the windows of shops that you pass. When you return from the walk, ask the children to describe what they saw

Games that Stimulate the sense of hearing

1) Knock Knock

Ask your child to close his or her eyes. Then see if the child can distinguish the sounds as you carry out the following actions

Knock on the floor, on the wall, on a table

Knock on the refrigerator

Knock on a box of cereal

2) Sound Associations

When a visit is made to a restaurant with your child, have the child listen to all the sounds around and then try to match them to the person or object producing the sounds. Give assistance if necessary

Games that stimulate the sense of Touch

1) Touch and Tell

Put an article in a large paper or cloth bag and tie the bat with a string. Then have the children feel the bag and guess what is inside.

2) Who's Bigger ?

Blindfold the child and have the child arrange rubber balls in order of increasing size. Set a time limit

Outdoor games

- You can teach children to run, hop, jump, which would help them to participate in various types of sports

- Games such as hide and seek, catching and throwing, musical chairs, basket ball, floor hockey, volley ball, etc. are played by children with mental retardation. The Special Olympics India has been regularly organizing sports and games for persons with mental retardation.

Indoor games

In villages and small towns children play a number of indoor games (eg. Five stones, etc.) in different parts of the country. Compile all those indoor games and teach children so that children with mental retardation can participate in such games along with non-handicapped children in their neighbourhood. You can also plan a number of card games, bingo, trader game for children.

4. 3.2. 8 Gardening

Gardening is another leisure time activity. Children can see seeds growing into plants, flowering, etc. Every one is interested in making their surroundings clean and green. Kitchen gardens, indoor plants, flowering plants can be grown in premises of centers/homes to utilize the leisure time of children. Infact, for some gardening skills can become an occupation.

4. 3.2. 9 Art and craft activities

- Fix a long brown paper/while paper on the wall. Let children draw, colour, paint what they would like to. Guide them in between in selecting the colour or mixing colours.
- Use old magazines, newspapers, invitation cards to cut pictures which can be used for making a collage. A lot of waste material can be used to bring out a beautiful collage work. This can be a team work.
- Use clay to make different things.
- Use cardboard cartoons, plastic bottles, bottle tops, straws, ice-cream cups, wooden scapulus, plastic wire, spools, rubber bands, corks, lids, etc to make various things. It brings out the innate talents of children.
- Collect waste papers, envelops for making paper mache.
- Take children for a nature walk. Collect leaves, flowers, sticks, stones, shells, etc. which can be used for making cards, collage work, wall hangers, etc.

The above listed leisure and recreational activities are a few to give you an idea. You can create or frame several games. There are a number of games played locally in every part of our country. List those games, and simplify them if necessary for children to play. Similarly depending on the local resources, various art and craft activities are popular in different areas. Hence, it is left to the trainer to identify the leisure activities popular in their own areas to teach children.

4.3.2.10 Community participation

Any rehabilitation programme aims at preparing an individual with disability to be a contributing member of the society within his/her capacity. This requires participation of persons with disabilities in various activities that are taking place in neighbourhood and community. For this, we need to bring an awareness among general public regarding the positive aspects of persons with disabilities, which would promote healthy relationship between handicapped and non-handicapped persons. As people are not aware of the abilities of persons with disability, often we tend to underestimate their capabilities.

As a community worker, you need to educate the children, young people and adults about children with mental retardation and what they are capable of. Follow the strategies given below

- Take children with mental retardation to the parties, temples, theatres, functions, community festivals along with you. Introduce them to non-handicapped children. Identify a task which a non-handicapped child can do along with retarded child. Guide them in handling the retarded child. Often it is noticed that normal children show a lot of patience, interest and perseverance in training a retarded child (peertutoring)
- There are youth clubs (in small towns and villages also), who undertake a lot of community activities, games and sports, cultural activities. Let young people with mental retardation be a part of those clubs. The association with non-handicapped persons helps them to learn socially accepted behaviors and better communication skills

4.3.3 Curriculum Adaptation For Children With HI

4.3.3.1Hearing Handicapped

Hearing impairment is a great barrier to the normal development of language. This child is at a distinct disadvantage in virtually all aspects of language development. Language being a very powerful tool of learning its importance in academic achievement cannot be undermined. A significant number of educators of the deaf individuals behave that many of the problems of the hearing impaired people related to social and intellectual development are primarily due to their deficiencies in language. Therefore, to help hearing impaired individual develop optimally in all aspects of learning i.e. social, emotional and cognitive, it is imperative that early interventation begins with the identification of the hearing impaired child. the correspondence text is divided into two parts the education of the Pre-School Child and the education of the School Aged Child

4.3.3.2Education of the Pre-School Child

Pre-school programs are important for children with hearing impairments especially for those who severe and profound hearing losses. Equally important are programs for families of these children. Parents need to know how to help their child acquire language and communication skills, as well as a positive self-concept. They are primarily responsible for the child's integration into the family neighbourhood, school and community. The training, that families require can best come from professionals at an infant or pre-school program. They can help parents cope with a range of issues from understanding the social and language development of their child to the proper care and fitting of hearing – aids

Young children, particularly those who are deaf, and their families, need intensive educational efforts during infancy and pre-school year (Appell 1982). Many families choose to learn some form of sign language or manual communication system, so that they can communicate more fully with their child. Some professionals propose that both infants and their families be taught sign language(SL) and the manual system and try to develop language "naturally"

Today, even infants can wear hearing aids and learning to take care of such equipment is an important part of their growth process. The need to use sophisticated equipment and incorporate it into their daily living need to begin early in life.

What should a good pre-school program have?

The early intervention curriculum should be comprehensive and have 3 main foci

a) the total development of the child within the context of his family i e physical, mental, social emotional and cognitive

b) Parental knowledge of normal child development and their child' hearing abilities

c) Support and skills to assist the child's assimilation into the family system (Bodner-Johnson 1987)

These programs are most effective when an audiologist, an educator, and often a person who is deaf is included

- Children who do not get used to hearing aids early in life learn to "tune out" sounds So, hearing aids should be introduced as early as possible
- Training with prerecorded environmental sounds with their corresponding pictures
- Everyday speech and high frequency words to be taught in the natural environment i e amidst naturally occurring noise and sounds

4.3.3.4Speech Reading

Speech reading involves using visual information to understand what is being said There are 3 kinds of visual information (Sunders 1982)

- Stimuli from the environment i e the context sound coming from the kitchen or hall
- Stimuli associated with the message but not part of the speech e g action of stirring milk with the words used
- Stimuli directly connected with the population of speech e g relevant lip and tongue movements

4.3.3.5Total Communication

A number of research studies have found that deaf children of deaf parents who had been exposed to manual methods, which compared to deaf children of hearing parents who had not been so exposed, were superior in language skills, academic achievement, reading, writing and social maturity

Oral and manual language should be taught at the pre-school level

The problems facing the educators of children with hearing impairments and formidable One major problem is communication

Programs with oral emphasis view speech as essential for the deaf persons integration into his hearing world Much emphasis is given to amplification, auditory training, speech reading and above all talking Oral Techniques

a) Auditory Training - is a procedure of teaching the deaf or hard of hearing child to make use of what hearing the possesses The benefits of auditory training have been augmented by rapid technological advances in the development of hearing aids

b) Speech – Reading - sometimes inappropriately called lipreading – involves teaching hearing impaired children to use visual information to understand what is being said to them Other visual stimuli can help the hearing impaired person to understand spoken messages

Auditory Training involves 3 major goals –

a. Development of awareness of sound

b. Development of the ability to make gross discriminations among environmental sound e.g. telephone ring and bicycle ring

c. Development of the ability to discriminate among speech sounds e.g. sound B K etc

Total communication (T C) using a variety of methods to assist the deaf child in expression and language development. Speech to be supplemented by one or more manual communication techniques, and meaningful communication to be encouraged between teacher and students and among students.

Sign language i.e. using gestures to represent words and concepts. The shape, position and movement of hands, the facial expression and the intensity with which the motions are made all communicate meaning in sign language (SL).

Finger Spelling to be used inconjuction with other methods of communication. Uses of sign language and finger spelling particularly to spell out proper names for which no sign exists and to clarify meaning which is not clear.

Cued Speech is a method for supplementing speech reading by using hand signals. 8 hand shapes (cues) are used in 4 different positions near the lips, the hand serves to identify sounds that cannot be distinguished by speech reading alone. The cues are neither signs nor finger spelling.

Thus, T C encourages the deaf child to develop expressive and receptive language by using several channels of communication simultaneously. Teachers and students practicing T C generally express themselves by speaking and signing and understand others their speech reading, auditory training and finger spelling. T C provides a reliable, receptive, expressive symbol system in the pre-school years (Denton 1972).

In short, every hearing impaired child should have access to a good program of communication that will be appropriate to his or her own unique abilities and needs.

4.3.3.6Education of the School Age Child

a) The educational needs of two groups of students with hearing impairment are very different from each other. The challenges that hard of hearing students face are different from those of students who have substantial hearing losses. Differences exist in the way they are taught, what they are taught, and for some of these students, where they are taught. Therefore, a classification of students with mild to moderate hearing losses and students with severe to profound hearing losses needs to be made.

Children with Mild to Moderate hearing Loss. mainstreaming seems to work well for students with mild to moderate hearing loss. Most students with hearing impairment can hear satisfactorily with amplification (i.e. hearing aid) and therefore, can attend school and function well with their non-handicapped peers. Children with mild to moderate hearing impairment need to be taught well with information presented orally and a combinationm of textbooks, lectures and class – discussions.

Along with educational benefits, students with hearing impairment need to acquire social skills in a regular classroom. All children learn to interact positively. Teachers need to encourage, support and create opportunities for such interactions to occur. Using tactics like the puzzle

technique result in better understanding of the content assigned Sharing, discussing, and modeling for each other the steps students follow to clarify comprehend and arrive at the correct solutions help student comprehend matter conceptually

With certain modifications, students with hearing impairment can benefit from regular classes There are a number of simple techniques and procedures like attending the lip movements, using cued speech help students with mild to moderate hearing impairment to profit more in oral communication situations (Burrow 1983, Kampfe 1984, Teitelbaum 1981,Yater 1977)

b) Children with Profound Hearing Losses Three different approaches are used to teach students who are deaf -

- Speech only (oral communication)
- Sign only (manual communication)
- Speech and sign together (total communication)

With the oral approach, children must be taught to use as much of the residual hearing as possible (Ling 1984 b) Learn about amplification, how to speech read (lip read) and how to speak For the basic oral approach believe that indurduals who are deaf must live and work in a word where most people hear normally and communicate through their oral expression In doing so, the hearing impaired can become part of mainstream society

However, oral approach programs have problems (ling 1984a) Some children can benefit but not all "for some children with severe and profound sensorineural hearing losses, the attainment of intelligible speeches are an unreachable goal" Even those who attain intelligible speech the process is arduous, slow and different

The second education approach is manual communication Sign Language (SL) which is structured and formal,with its own linguistic rules and patterns is one cudely-used form of manual communication SL is not used by most teachers in elementary and secondary school settings Only 3 % of teachers for the deaf use ASL in their classes A study (Woodward 1988) found that 35% of the students with hearing impairments use oral communication in their classes Differences in the use of oral communication related to the individuals degree of hearing loss (11% with profound losses, 78% with less than severe losses) Oral communication is used depending on degree of hearing loss often finger spelling(FS) a form which closely matches the grammatical form and language and structure of standard English In F S each alphabet has a sign Words are spelled out

Liddell and Erting (1989) advocate the use of SL at home and at school for children with severe hearing impairments

4.3.4 Curriculum Adaptation For Children With LI & CP

4.3.4.1 Adaptation in curricular programme activities and transaction.

As far as the children with locomotor impairments are concerned, they suffer from three major problems loss of limb, deformity of the limb and weakness of the limb These problems may hinder in his activity of daily living, in terms of, moving, lifting object etc As far as their other faculties are concerned, l e hearing, speaking, mental abilities, they are normal Therefore they can pursue the normal curr dar programme as the other able bodied children can do They also do not require any adaptation in he training learning material

In case when the locomotor impairment is associated with other disabilities like hearing speech mental retardation or learning with difficulty they will require adaptation in the curriculum which is given in the respective unit

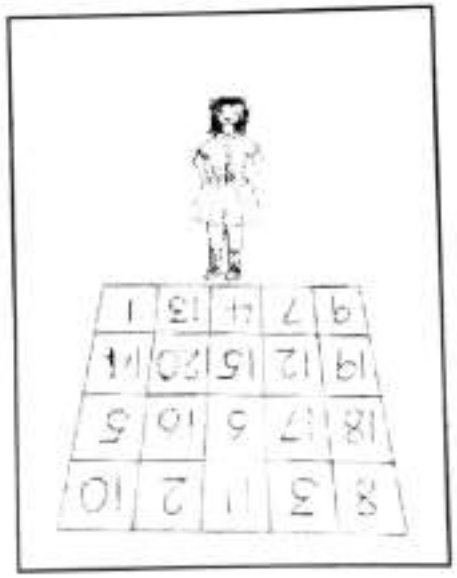
4.3.4.2 Adaptation in Co-curricular programme activities and transaction

As far as co-curricular programme activities are concerned these children need to be encouraged to undertake as many of them as possible At the same time taking into account the safety of the child provide them a disabled friendly physical environment so that their mobility is not interfered with as far as possible

4.3.5 Curriculum Adaptation for Children with Learning Difficulties

4.3.5.1 Teaching Strategies

This section deals with the teaching strategies both general and specific required by children with learning disabilities



Time Telling Test

The ability to tell time is essential for all students to function independently while in school and later as adults This skill is particularly useful for any child with a special need who is mainstreamed or entering vocational preparation The checklist or the time-telling test providing the teacher with a quick survey of student s ability to tell time The test is arranged in ascending order of difficulty that is each succeeding section requires a higher skill level In addition within section requires a higher skill level In addition within sections items are arranged in the order of increasing difficulty This format is designed to prevent the tester from frustrating students with continuing wrong answers

Name _____ Date _____

School _____ Examiner _____

Grade _____ Classroom Teacher _____

TIME-TELLING TEST

	Correct	Incorrect	Student's Response
Part I Events in Time			
Questions			
What time do you get up?			
What time does school start?			
What time do you eat lunch?			
What time does your favourite TV show come at?			
What time do you go to bed?			
Part-II Recognition of Time to the Hour			
12.00			
4.00			
1.00			
9.00			
11.00			
3.00			
Part-III Recognition of Time to Half Hour			
2.30			
5.30			
12.30			
8.30			

Part-V Recognition of Time to Ten Minutes

12:10

5:40

2:20

6:50

Part-VI Recognition of Time to the Minutes

4:02

7:16

9:43

11:36

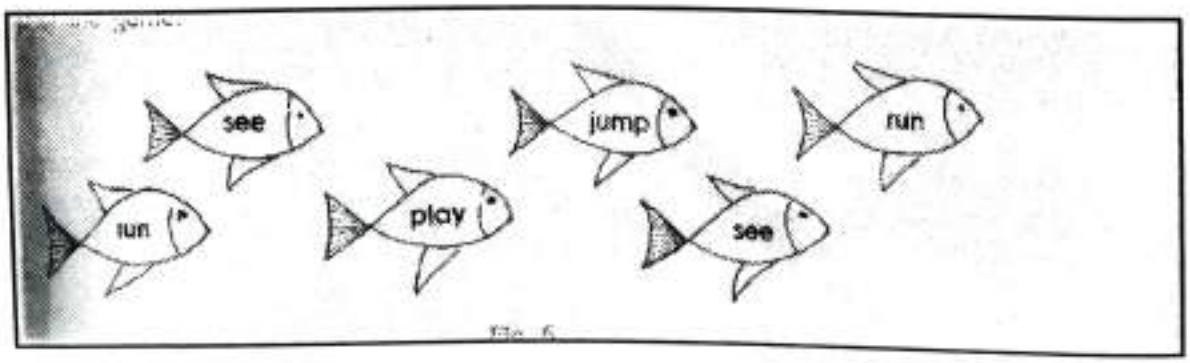
Part VII Time Problems

Given	Questions
1. Clock at 1:00	1. How much time until 2:30?
2. Clock at 12:15	2. How much time until 4:45?
3. Clock at 6:27	3. How much time until 6:30?

Games for reading:

Fish: Place the words on coloured paper cut-outs of fish and scatter on the floor. If a student is only assigned four to five new words, make multiple copies of each word.

A student is allowed to continue fishing (picking up the paper fish) as long as he/she can pronounce the words. Count the number of fish caught by each student at the end of the game.

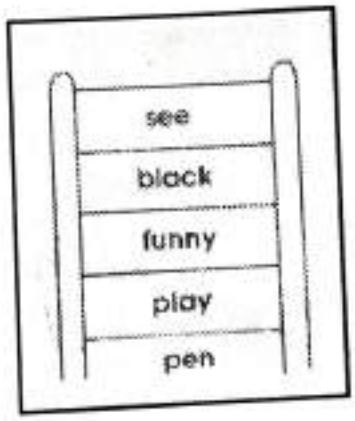


Variation:

Attach metal paper clips to each fish and use a fishing pole stick and string with a magnet attached to the end. When a fish is "caught", the student must correctly pronounce the word or throw back the fish.

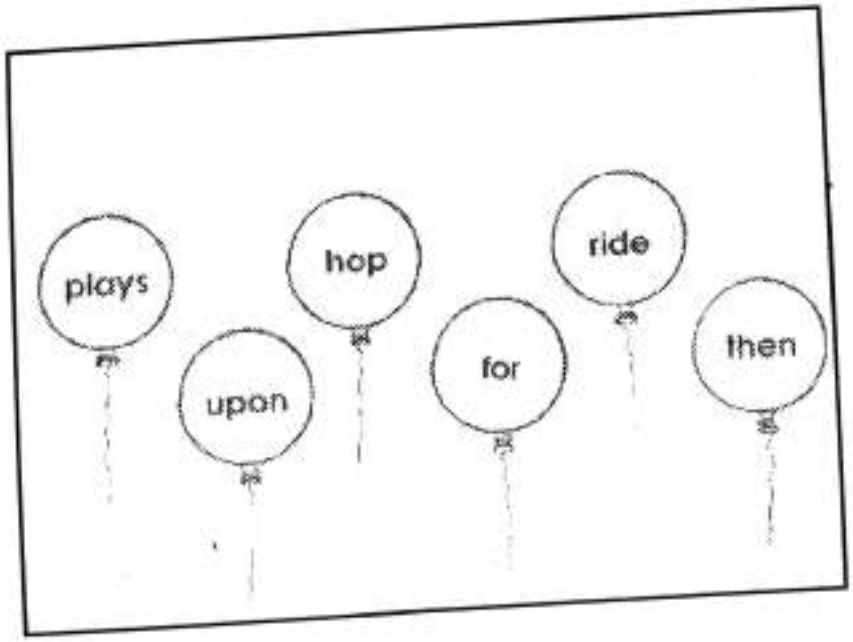
Climb the ladder:

Draw a ladder on paper and fill the spaces with words. A student points to and pronounces each word as he/she "climbs the ladder"



Balloon Pop:

Draw circles on the background and write a word in each of them. As the student pronounces each word, a string is drawn. Reverse the procedure by erasing (popping) the balloons as each word is correctly pronounced.

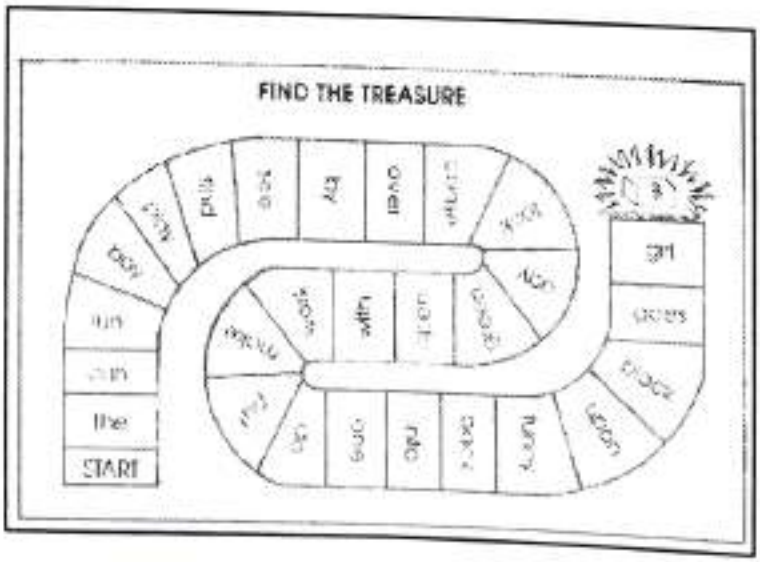


Word Bingo:

Construct Bingo cards with words written in each square. Have a larger pool of words than spaces on the cards so that no two students cards are alike. The caller calls out the matching words on their cards with coloured paper. All squares on a Bingo card must be covered before the game is won.

Game Board:

Adapt game boards to word lists and use a pair of dice or spinners. The student throws the dice and then moves the number of spaces and pronounces each word as the maker is moved. For example. The dice shows four. The student, pronounces the words. the. can. run. boy. before placing the make on that space. The first player to reach the treasure chest wins. If a word is missed. the student returns the maker to the previous position.



Psycho-social Supports:

This section deals with the role of teachers, parent's and peers

Role of parents

No parent is ever prepared to be the parent of a handicapped child. The parent primarily learns about the child through the experience of family living and professionals working with the parents must focus on these learning experiences

Although parents may share common problems and reactions, the combinations of reactions that are possible, the intensity of the reactions, and the duration of the reactions are some factors that necessitate that each family be considered individually. For e.g. parents' reactions to the diagnosis of a learning disability in their child may be similar to feelings of grief and be characterized by shock, denial, blame and/or guilt, anger, and sorrow. Initial feelings of shock, denial and disbelief may be followed by feelings of guilt, anger, or depression before the parent reaches acceptance and makes constructive attempts to seek services and incorporate the disability into the reality of daily life

Parental adjustment might comprise of the following

- Awareness of a problem
- Recognition of the problem
- Search for a cause
- Search for a cure, and
- Acceptance of the child

4.3.5.2 Role of Parents, Teachers and Peers

Role of parents:

- Foster feelings of self-esteem in your child
- Do not compare the performance of this child with other siblings
- All children have strengths and competencies and these strengths must be identified and reinforced
- Parents who convey hope provide a major force in helping children overcome adversity and become resilient
- Parents can help children develop a feeling of responsibility and sense of making a contribution to the family and the word
- Parents can provide opportunities for their child to make choices and decisions and promote self-discipline
- Parents can help children deal effectively with mistakes and failures
- If possible, parents should attend training programmes with community

Role of the General Teacher:

The regular 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. She should take care of their special needs as much as she can in the regular classrooms
- It is apparent that this teacher has an enormous responsibility. It is important that these cooperative and capable people receive preparation and support. For example, teacher assistance teams or coaching are useful types of support.

Role of a resource teacher:

The resource teacher has the following functions:

- Functional assessment
- Preparation of teaching learning material
- Suggesting curricular adaptation
- 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

Both the special teacher and the general teacher should show the following competencies:

- Have the ability to take advantage of every child's individual interests
- Use a child's internal motivation for developing needed skills
- Should be able to structure the environment in a way so that students are motivated and are actively engaged
- Believe that every child in the class is their responsibility
- Find out how to work with each child, rather than assuring that someone else will tell them how to educate a child
- Know about different instructional strategies and how to use them effectively. This also includes the ability to adapt materials
- Learn what skills a child need and to provide appropriate teaching approach
- Show flexibility and high level of tolerance for ambiguity
- View each child in the classroom as an opportunity to become a better teacher rather than a problem to cope with
- Have excellent observational skills to see as to what caused the behavioural problem
- Above all, all teachers need to believe that 'All children can learn.'

Role of peers:

- Encourage the peers to play with this child and not think him to be lazy, stupid or a trouble maker
- Encourage the peers to help this child in learning
- It is very important that peers do not call this child stupid or idiot. As they might already be aware of their problem, such comments would further create psychological problems in them
- Techniques like peer tutoring, small group instruction or cooperative learning help all children learn to live, learn and relate to each other in a positive manner
- Give this child a buddy who is good in academic skills
- Peers should not compare the performance of this child with that of others in the classroom

4.4 UNIT SUMMARY

- Children with disabilities can not be taught like normal children
- Curricular adaptation is essential for education of children with disabilities
- Specific adaptation is required for specific disability. They may need special attention as well as adaptation of curriculum to cater to their specific needs
- The teacher has to make a conscious effort to structure, modify and develop certain curricular and co-curricular as well as leisure time activities for children with specific disability

Children with learning disabilities have the ability to learn. Teachers need to emphasize those approaches to teaching that promote active student learning and encourage students to direct their own

learning. The focus of instruction should be to stimulate and nourish a students' own mental ability for acquiring knowledge. Some of the key principles of learning are

- Learning is a constructive process
- Learning is linking new information to previous knowledge
- Learning is strategic
- Learning requires motivation

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. The regular education teacher can provide good role models and high expectations for students with particular challenges. But this is only possible if general teacher, resource teacher, school administrators, parents and community all work as a team. Thus, the key to success lies in shared ownership. Teachers will want to realize that all of the children in their schools are "all of our children" and work within a collaborative framework to meet the unique needs of all children.

4.5 CHECK YOUR PROGRESS

1 Give an outline of the salient features of curricular adaptation for any of the following disabled children

- VI
- HI
- LI & CP

2 What recreational activities can be planned for VI children?

Why do you have to plan leisure and recreational activities for children with mental retardation?

3 List the indoor and outdoor games that can be played by children with mental retardation that are not mentioned in the unit

4 Compile the locally played games. Design atleast three games which can suit a child with severe mental retardation

_____

_____

_____

_____

5. Plan two art and craft activities which facilitate participation of children with all severity levels (group activity)

_____

_____

_____

_____

6 Among children with mental retardation the largest in number are

a) severely retarded

b) moderately retarded

c) mildly retarded

7 The children with _____ retardation can be integrated in regular schools

a) mild

b) moderate

c) severe

8 Home based training is best suited for children with

a) borderline intelligence

b) mild retardation

c) profound retardation

9 State true or false

a) The curriculum and teaching are same for blind, deaf and mentally retarded children — True False

b) Peer group cannot be used for teaching retarded children — True False

c) The social competency of retarded children improve with regular schooling — True False

d) The mentally retarded children need special equipment and classroom arrangement — True False

e) Mentally retarded children learnt at a slower pace than non retarded children. True / False

f) Environmental sciences include science and social studies. True / False

10. Write the sequence in teaching writing

a) _____

b) _____

c) _____

d) _____

e) _____

f) _____

11. Fill in the blanks

1. Inability to read effectively is called _____
2. Gross motor skills includes activities like _____, _____, _____
3. A child who is always on the move has problems in paying _____
4. reading with peers/parents is called _____
5. There are _____ types of learning disabilities
6. Problems related to maths are called _____

12. Short Answers

1. Explain the term dysgraphia?
2. Give 3 symptoms of children with learning disabilities?
3. Mention 5 teaching strategies that you will use with these children?
4. Define Joyful Learning?

4.6 ASSIGNMENT

Plan leisure and recreational activities suitable for children with specific disability (VI/MR/HI/LI).

Prepare a report how normal children can be made to accept participation of children with disability along with them.

Prepare a case study of a child with a learning disability

4.7 POINTS FOR DISCUSSION AND CLARIFICATION

After going through the Unit you may like to have further discussion on some points and clarification on other. Note down those points below:

4.7.1 Points for Discussion

4.7.2 Points for Clarification

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UNIT – 5 : EQUIPMENT AND TLM NEEDED IN RESOURCE ROOM FOR CHILDREN WITH DIFFERENT DISABILITIES

STRUCTURE

5.1 INTRODUCTION

In teaching, most children particularly those with severe disabilities considerable amount of equipment and special TLM are required. Without them no effective teaching will be possible. The purpose of this unit is to indicate what types of equipment and TLM are needed for children with various disabilities.

5.2 OBJECTIVES

After reading this Unit, you will be able to :

- understand what equipment to use with different kinds of disability and in what situations.
- gain a general understanding of equipment available in the country for children with different disabilities.
- understand when and where to use particular types of equipment.
- know how to make local TLM.

5.3 EQUIPMENT AND TLM NEEDED IN RESOURCE ROOM

5.3.1 Equipment and TLM for Children with Visual Impairment

A simple geometry device can be locally made. Put a rubber mat on a wooden board, place polythin sheet on the rubber band and draw with a ordinary ball point pen. Braille ruler protector and special compass are available indigenously. With this equipment, a blind child can be enabled to draw any diagram in geometry.

Low vision children require magnification. Hand-held table, spectacle, magnifiers can be obtained. They can be lighted or unlighted.

India has recently developed aspheric censes, the advantage of these causes is that they minimize the peripheral distention that occurs owing to high magnification.

No magnifier magnify more than 4 to 6 times should be used because the field of vision of the child will be so reduced that he/she may have difficulty in smooth reading. It greater magnification is required, close circuit TV or overhead projector should be used.

Braille Slate

This is usually a wooden board with holes on either sides, a metal guide is fitted in these holes and brought down as writing progresses.

Each cell in the guide has six notches representing six dots in braille. On the top there is a clamp with pins to hold the paper in position. This is the simplest appliance used for writing Braille.

Brailler

Brailler is shaped like a type writer, but has six keys and a spacer. It is used more or less in the same way as the type writer. A Brailler is shown in the following picture.

Taylore Frame

This is a sheet of plastic or metal with octagonal holes. In these holes are fixed types which have a line on one side and two dotes on the other. Different positions of the type stands for different figures.

Abacus

Abacus is an oblong frame having 13 to 15 column. Each column is separated by a bar technically known as centre bar. Hold the abacus straight. The bottom portion of the Centre bar contains 4 beads in each column and the upper portion of the centre bar contains one bead in each column.

The abacus is to be held in such a way that the 4 beads below the centre bar are at the bottom, and the single bead above the centre bar is at the top.

Each bead in the lower portion of the abacus denote one unit and the bead above the center bar denotes 5. Each column denotes the position of the umber it represents.

The extreme right column is the units column the second column from the right is the tens column from the right is the hundreds column, the fourth column from the right is the thousands column and so on and so forth.

5.3.2 Teaching Learning Materials (TLMs) for Children with Mental Retardation

We have seen that there are not many specific teaching learning materials exclusively for mentally retarded children. In the case of a blind child, Braille and abacus become a necessity. What we normal people generally use in our day-to-day life a mentally retarded child also can use. In fact, it is better to use materials as they are in natural setting rather than specialize them. One major difficulty with persons with mental retardation is their ability to generalize, that is, use a skill learnt in one environment in another situation. Hence, if we specialize their materials to use, they may not be able to adapt to environment without that materials. However, there are certain simple changes and adaptation that can be made so that they function independently. This needs some thinking on suitable selection of materials as well as making minor modification based on individual needs.

Importance

If independent living by the retarded child is the ultimate aim, any step towards actualizing it is worth the time and effort. One of them is suitable selection and adaptation of TLMs. While talking about learning by mentally retarded children, we have been constantly referring to concrete examples, as they cannot understand abstractions. This necessitates materials that can be experienced by the five senses, leading to understanding and concept formation. In the classroom or outside, use of actual objects along with verbal explanation is necessary. Allowing the child to experience the new input through appropriate method and materials is the crux of educating the retarded child. Therefore, importance of TLM cannot be under-estimated.

Learning and Functional aids

While teaching children, we use certain material. Some are used for a short duration, while some are used permanently. We know that mentally retarded persons need concrete experiences and examples for their learning. Once they have learnt, we do not need the material any more. For example, stones, beads, seeds, spoons and such other small objects can be used for teaching counting. After the child has learnt to count and has understood what is 1, 2, 3, 4, 9, 10 and so on, by looking at the number symbol, the objects are not needed any more for counting. Similarly in reading and writing, initially you may use pictures and help the child to name them, read and write. After accomplishing independent reading of the name, the picture or the object is not needed. Such objects and materials are called **learning aids**. They will not be needed by the child for learning purposes once the concept is understood.

On the other hand, **functional aids** are required for a person with disability to be used all through his life, and it compensates for his disability – hearing aids for persons with hearing impairment, crutches/calipers/wheel chair for locomotor disabled person, cane/Braille materials for a blind person, written name and address for identity for a mentally retarded person are a few examples of functional aids. One has to be very careful in selection or development of teaching learning materials.

Consideration and Selection/Development of TLM

If well selected, some can be used **as they are** – beads and blocks, garden tools and so on. **Some need modification** for use by retarded person – shirts with Velcro instead of buttons, skirts and pyjamas with elastic instead of tape and **a few need to be exclusively developed** – name cards, sequence of hair braiding to make it easy to difficult steps (for girls). Whether learning or function aids, first check if it can be used by the retarded person as it is. As there is variation in the ability of the retarded persons, utility of readymade material as it is, will depend, to a large extent on the user. If after trial you find

that it needs modification then only adapt it. Do not be in a hurry to adapt. The more the object used resembles the regular one, the more chances of generalization by your trainee.

Examples of functional aids for mentally retarded children include adapted/simple calculator, digital watch, address card, modified brush/towel to scrub/wipe difficult to reach areas while bathing such as centre of the back, pictorial shopping list (if they cannot read), pictorial recipe book and so on.

While developing or selecting TLMs make sure that the material is

- durable
- has multipe utility
- age appropriate
- affordable
- accessible by school and family
- maintenance is easy
- breakable/non-toxic
- serves the purpose it is meant for
- minimizes transfer of training (easy to generalize)
- novelty is maintained
- updated
- easily available
- leads the learner towards independent living skills.

5.3.3 Equipment and TLM for Children with HI

During speech production, speakers primarily use their sense of hearing (audition) to monitor what is being spoken and how it is spoken. However, either at a conscious or unconscious level they can also feel the different places within the oral cavity where the tongue touches. Not only this, the speaker also receives a feedback about the way in which the different speech organs move in relation to each other (kinesthesis). In short, speakers make use of **auditory, tactile and kinesthetic feedback** in order to monitor speech production. However, normal hearing individuals do not realize the contributions made by touch and kinesthesis as hearing is readily available to them for monitoring speech. In case of hearing impaired individuals, however, as the sense of hearing is not available for monitoring their speech production, other senses have to be used more. During teaching or correcting the speech of the hearing-impaired, use of all sense modalities is thus very important. There are a number of **teaching aids and equipment** that have been developed to facilitate use of audition, vision, touch and kinesthesis for providing feedback during teaching of speech to the hearing-impaired. Let us look at a few of these.

Hearing Aids - the most important TLM

The first and foremost teaching-learning material required for a HI child is a suitable hearing aid. This is to be used at all stages of teaching-learning and preferably throughout ones life time if one is comfortable with it and finds it useful. A lot will depend upon not only his type and degree of hearing

less but also on how well he has been trained to use the hearing aid from early childhood. The use and care of the hearing aid is covered under the unit on Amplification Devices (Refer Block-4, Unit-1 for details). The important THING IS THAT THE HEARING AID MUST BE IN GOOD WORKING CONDITION ALL THE TIME.

1) **Auditory aids:** Auditory aids are those that facilitate optimal use of residual hearing by the hearing-impaired individual. A number of such aids are available. You must have already read about these in the section on Audiology. These aids include

- Personal hearing-aids of all types
- Group amplification systems such as hard-wire systems, induction loop systems, FM systems etc.
- Speech trainers

We will discuss auditory speech trainers in brief here.

Speech trainer: Various types of speech trainers are commercially available. Some of these make use of auditory and tactile modalities while some make use of the auditory modality only. Basically, a speech trainer consists of an external **microphone, amplifier and headphones**. The instrument has controls that can adjust the intensity of the output signal. This can be done separately for the two ears. A **tone control** is also available on some instruments. Also, some instruments have a **vibrator** that can be used simultaneously with the headphones. Thus, the speech trainer with a vibrator allows the hearing-impaired individual to use the auditory as well as tactile modality for learning to speak.

2) **Visual aids:** Visual aids are ones that provide visual feedback about the aspects of speech production. Use of vision is very important for the hearing-impaired for the purpose of understanding speech (speech reading). Not only this, visual feedback is also valuable for explaining the various aspects of speech production to the hearing-impaired. **Simpler ways** of providing visual feedback include

- Using a **mirror** for showing placement of the articulators for certain speech sounds.
- Using **pictures and diagrams** of the oral cavity to show the placement of the various articulators.
- Using **hand positions** and movements to demonstrate placement of active and passive articulators.
- Using visual **prompts** to indicate vocal pitch and loudness.
- Using **written markers** to indicate prosodic features of speech, etc.

With improvement in technology, various electronic and computerized equipment is available for maximizing visual feedback during speech production. Most of these equipment have a **microphone** that picks up the speech signal. This speech signal is **processed and displayed** on a visual monitor or screen in the form of a waveform. Types of information that can be displayed include fundamental frequency, intensity, duration, voicing, frication, various prosodic features, etc. The visual screen can be divided into two parts (**split-screen**). The teacher can use the upper part of the screen to model the correct production. The second part can be used for recording the child's production. The child has to look at the teacher's pattern and try to match his own production to it. The teacher must highlight the

feature that is being dealt with and explain the strategy of its production. The child can practice for a number of times keeping the model production constant. **Examples** of visual equipment available commercially include Visi-pitch, Vocal H, Vaghmi, Speech Spectrographic Display (SSD) and PM Pitch Analyzer.

3) **Tactile Aids:** Tactile aids are the ones that make use of the modality of **touch** for providing feedback about speech production. A simple way of providing tactile feedback to the hearing-impaired child is to place his hand on the **neck, cheeks or the nose** of the teacher and draw his attention to the vibrations occurring while different sounds are produced. There are also a number of instruments aids that are designed to provide tactile feedback to the hearing-impaired individual. These aids consist of a **microphone** that picks up the speech signal, a **processor** that converts this signal to a tactile signal and a **transducer** that carries this tactile information to the hearing-impaired individual. The user usually wears the transducer of a tactile aid (vibrator) on the **inner part of the wrist**. Some researchers also recommend the fingertips for stimulation. Tactile aids are usually of two types: **vibrotactile and electrotactile**. In vibrotactile aids, the speech signal is presented to the skin of the user using mechanical transducers or a vibrator. In electrotactile aids, the speech signals are presented to the skin as an electrical current. Research has shown that tactile aids are useful as a **supplemental aid** for speech reading and in speech training. These aids help the hearing-impaired user in sound detection, in discriminating sounds differing in duration, in tracking connected discourse, and in developing awareness to speech. Tactile aids have not been useful in developing discrimination between finer aspects of speech production. These are shown to be helpful for individuals with profound hearing-imparment who do not appear to receive adequate help from conventional amplification. **Examples** of tactile aids available commercially include Mini Fonator, Fonator Speech Trainer and Fonator Auditory Speech Trainer.

You will get **an opportunity** to get acquainted with some of the teaching aids used for providing feedback during teaching and correction of speech.

5.3.4 Equipment and TLM for Children with LI & CP

A Resource Room having all the equipment, learning aids and materials may be provided. According to the NCERT handbook, in case of locomotor disabled, provision is to be made for adjustable furniture, special writing thick pen and improvised prosthetics orthotics. Availability of requisite teaching learning material for the disabled is vital for successful implementation of the scheme.

The majority of children with locomotor imparment do not require special education. They can participate and profit from general education even in regular school. But the school need to be made barrier free. Class Room should be located on the ground floor so that the children can alight from the school bus and reach their class room with a minimum of difficulty. If that is non fisible the school should have ample elevator service and or inclined ramps specially for children who use wheel chair for their mobility, built environment needs to incorporate level access, ramps, lifts elevators, handrails and grab bars, larger toilet cubicles, adequate wide paths, doors, entrances etc. Desk and chairs should be constructed so as to make each child as physically comfortable as possible.

In addition to specially designed classrooms, specially designed instructional equipment should be provided such as large carvons or pencils to easily manipulate for those children who find difficulty with standard sizes. Also a disabled child who can not manage to write with pencil or pen may be provided the use of electric typewriter. For a crippled child an ideal arrangement may be for each class room to be accompanied by a second room equipped with cot for taking rest he generally needs.

5.3.5 Equipment and TLM for Children with Learning Difficulties

Refer to Section 4.3.5.1 of Unit-4 in this Block.

5.4 UNIT SUMMARY

- Education of children with disabilities requires special equipment and TLM.
- Braille ruler protector and special compass can enable a blind child to draw any diagram in geometry. Low vision children require magnification. In the case of a blind child, Braille and abacus become a necessity.
- The majority of children with locomotor impairment do not require special education. They can participate and profit from general education even in regular school. But the school need to be made barrier free. According to the NCERT handbook, provision is to be made for adjustable furniture, special writing thick pen and improvised prosthetics/orthotics.

5.6 CHECK YOUR PROGRESS

1. Name the equipment required to teach the children with (a) Visual Impairment;(b) Hearing Impairment.
2. Suggest how you can prepare TLM from locally available materials for teaching children with:

   Mental Retardation
3. Briefly describe when and where to use particular types of equipment.

5.6 ASSIGNMENT

What type of TLM is required for children with MR. Give your suggestion how you can develop TLM for them from locally available materials.

5.7 POINTS FOR DISCUSSION AND CLARIFICATION

After going through the Unit you may like to have further discussion on some points and clarification on other. Note down those points below:

5.7.1 Points for Discussion

5.7.2 Points for Clarification

5.8 REFERENCES/FURTHER READINGS (UNIT-1 TO 5)

- ❑ *MPBOU, B.Ed. SEDE Programme, SIM Series, Bhopal*
- *SESL-01 : Introduction to Locomotor Impairment and Basic Anatomy*, Block-4 : Normal Child Development
- *SESL-02 : Locomotor Impairment And Spinal Cord Conditions*, Block-3 : Enabling Environment, Block-4 : Resources Support for Locomotor Impaired Child in School, Block-5 Classroom Management Techniques and Strategies
- *SESL-03 : Cerebral Palsy*, Block-2 : Assessment – Physical & Functional, Block-3 : Communication: Speech & Hearing Disorder & Its Assessment, Block-4 : Education for Children with Cerebral Palsy
- *SESH-01 : Foundation of Education for the Hearing Impaired*, Block-2 : All about language and Hearing Impaired, Block-3 : Other Educational Aspects
- SESH-03 : Methodology of Teaching Language and Other Subjects to H.I., Block-1 : Education of the H.I. at all Levels, Block-2 : Reading and the Hearing Impaired
- *SESM-01 : Identification and Assessment of Persons with Mental Retardation*, Block-1 : Mental Retardation : Nature and Needs, Block-2 : Assessment and Evaluation, Block-3 : Social Perspective of Mental Retardation and working with Parents, Family and Community

- *SESM-03 : Curriculum and Teaching Strategies.* Block-1 : Curriculum Guidelines in Mental Retardation , Block-2 : Teaching Strategies , Block-3 : Co-curricular Activities, Block-4 : Educational Provisions: Organisation and Administration.

- *SESV-01 : Introduction to the Education of Visually Impaired Children,* Block-1 : Nature of Visual Impairment and Education of Visually Impaired Children, Block-3 : Education of Low Vision Children.

- *SESV-02 : Educational Perspective on Visual Impairment.* Block-3 : Curricular Adaptation and Transaction, Block-4 : Education for Rehabilitation

FOUNDATION COURSE ON EDUCATION OF CHILDREN WITH DISABILITIES

BLOCK – 1 : DEVELOPING BROAD POSITIVE PERCEPTION OF CHILDREN WITH DISABILITIES AND INTERVENTION MEASURES

Unit – 1 Defining People With Disabilities

Unit – 2 Understanding The Needs Of Children With Disabilities

Unit – 3 Intervention Measures and Legislative Frame Work

Unit – 4 Concessions Available for the Disabled, Schemes and Benefits

Unit – 5 Role of Families and Community

BLOCK –2 : UNDERSTANDING EDUCATION FOR CHILDREN WITH DISABILITIES

Unit – 1 Factors Affecting Learning

Unit – 2 Understanding Educational Needs Of Children With Disabilities

Unit – 3 Types Of School And Models Of Education For Children With Disabilities

Unit – 4 Curriculum Adaptation For Children With Disability

Unit – 5 Equipment And TLM Needed In Resource Room For Children With Different Disabilities

BLOCK – 3 : UNDERSTANDING OF EARLY CHILDHOOD DEVELOPMENT AND INTERVENTION OF CHILDREN WITH DISABILITIES

Unit – 1 Early Childhood Care And Development

Unit – 2 Early Identification And Assessment

Unit – 3 Early Intervention

Unit – 4 Behavioral Modification Skills

BLOCK – 4 : DEVELOPMENT OF ADAPTIVE SKILLS, ASSISTIVE DEVICES AND SPECIAL THERAPIES FOR CHILDREN WITH DISABILITIES

Unit – 1 Development Of Adaptive Skills, Assistive Devices And Special Therapies For Children With Hearing Impairment

Unit – 2 Development Of Adaptive Skills, Assistive Devices For Children With Visual Impairment

Unit – 3 Development Of Adaptive Skills, Assistive Devices And Special Therapies For Children With Mental Retardation

Unit – 4 Development of Adaptive Skills, Assistive Devices and Special Therapies for Children with Locomotor Impairment, Cerebral Palsy and Spinal Injury

BLOCK – 5 : BASIC TRAINING FOR TEACHING CHILDREN WITH SPECIAL NEEDS

Unit – 1 Early Identification And Intervention

Unit – 2 Observation Of Teaching In School

Unit – 3 Teaching Practice Of 15 Lessons

Unit – 4 Community Contact Programme

ध्वनिर्वर्णा पदं वाक्यमित्यास्पद चतुष्टयम ।
यस्या : सूक्ष्मादि भेदेन वाग्देवीं तामुपास्महे ।।

The above Idol of ***Vagdevi*** (The Goddess of Learing) , of international fame, which was initially placed in ***Bhojshala*** (the school of Learning created by the great King Bhoj of Central India in the Year 1035 AD) is now in British Museum. With a very gererous support, of King Bhoj, scholars from all the parts of India converged to ***Bhojshala,*** which produced 84 monumental works in ***Samskrit.*** The last two words in the sloka written on the top mean ***Dedication for the cause of learning.*** These words appear in the emblem of the Madhya Pradesh Bhoj (Open) University.

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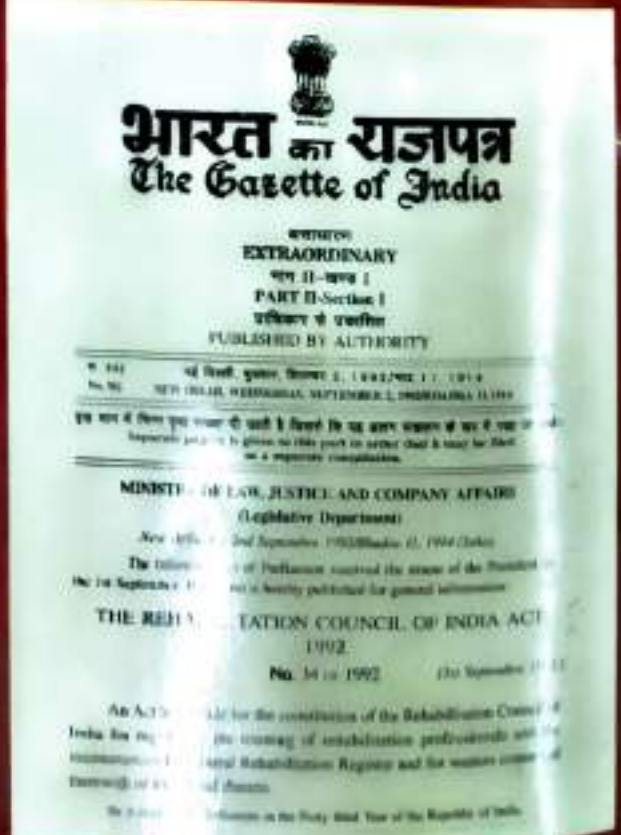
भारत का राजपत्र
The Gazette of India

EXTRAORDINARY
PART II—Section 1
PUBLISHED BY AUTHORITY

MINISTRY OF LAW, JUSTICE AND COMPANY AFFAIRS
(Legislative Department)

THE REHABILITATION COUNCIL OF INDIA ACT, 1992

No. 34 of 1992

RCI

MPBOU/PC-SED/Third Edition/March 2008/3000

Printed By :