School Readiness for Children with Special needs

NATIONAL INSTITUTE FOR THE MENTALLY HANDICAPPED
(Ministry of Social Justice and Empowerment, Government of India)
Manovikas Nagar PO. SECUNDERABAD - 500 009

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After receiving the directions from the Ministry of Human Resource Development regarding the need for such a manual, a working group met at NIMH to decide on the content, format and procedures for field trial. The efforts of the group was helpful in being the guiding principle all the way through. The group in addition to the authors included Mrs.Lakshmi Chary, Dr.G.Kamala and Mrs.Ratnamala from College of Education, Andhra Mahila Sabha, Hyderabad. The suggestions given by them was very helpful in the development.

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FOREWORD

The principal objectives of District Primary Education Programme (DPEP) is to provide quality primary education to children and thereby bring about universalisation of primary education. Currently, 149 districts spread-over 14 States are covered under the programme. More districts and States are in the pipeline.

The extent of children with disability is large. Some of the surveys have estimated the extent to be even 10 per cent of children. Our dream of universalisation will never be achieved without including such children in the programme. Therefore, the DPEP provides for integration of such children through a set of guidelines.

A clear strategy which is State-specific is going to be in place in the DPEP districts to take care of such children. A whole range of interventions would be required for their coverage. This would include a large scale convergence with NGO sector and with similar programmes in education as well as in other sectors. It will also require orientation of teachers and provision of special teachers' support. This book which has been developed by the National Institute for the Mentally Handicapped will serve as a valuable asset in the guidance of the special teachers who would be providing support to the general teachers and the parents and children.

I trust this will provide the necessary stimulus to the integration of children with disability in the schools.

(R.S. PANDEY)

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PREFACE

29.6.98

The centrally sponsored scheme of District Primary Education Programme (DPEP) is a major turning point in the field of Education in India. With the objective to overhaul the primary education in India, the project has been in effect for five years. The decision to include children with special needs is a welcome development as it justifies the UNESCO Declaration 'Education for All'. However, it is not an easy task as the characteristics and needs of children with different disabilities vary, based on the type of disability – visual, hearing, locomotor or mental retardation and the degree of disability ranging from mild to profound.

To be successful in including children with disabilities it is imperative that the efforts are made early in the lives of disabled children and the teachers are suitably prepared to receive and accept such children in their classroom. It is also essential that the peer group, parents and the community is also educated regarding, children with special needs. Thus, the first step begins in 'readiness' – readiness on the part of the children with special needs to learn, readiness on the part of the regular teachers to teach, readiness of their peers to accept these children and readiness of the parents and community to accept these children and cooperate in the efforts to educate and include them in normal activities.

I am happy that a handbook on School Readiness for children with Special Needs has been prepared to meet the challenge. The contents, describe with illustrations the nature and needs, and basic activities for school readiness in simple language for each of the disabilities separately, including visual impairment, hearing impairment, locomotor disabilities and mental retardation. The inclusion of home and school activities ensures parent-teacher participation. This book being the first of its kind in our country, focusing on younger disabled children towards preparing them for school, I hope not only the teachers of DPEP but also other concerned persons will benefit from this handbook.

29/6/98

(GAURI CHATTERJI)

INTRODUCTION

INTRODUCTION

It was a little more than half a century ago that wise people assembled together to write the Constitution of India. They thought of providing free and compulsory education for all children as reflected in Article 45 of our Constitution. However, children with disabilities who constitute nearly 10% of the school going population did not figure prominently except in Article 41 where it is indicated that the State shall make provision for securing the right to work, to education and to public assistance in the case of unemployment, old age, sickness and **disablement,** and in other cases of undeserved want. History of education for children with disabilities began more than a century ago adopted a different line of approach ie., providing education in schools specially meant for each disability. The first school for the blind was opened at Amritsar in 1887 and the first school for the deaf was started at Mumbai in the year 1882. Times have changed, so have the concepts. It is now no longer considered appropriate to have separate schools for children with disabilities. Instead, it is the movement of **inclusion** in contrast to exclusion or segregation which has gained momentum in recent years particularly in the decade of 1990s. In this era of globalisation, our country is bound to be influenced by developments elsewhere in the world. What was started as education in **least restrictive environment** in the United States of America in early 1960s, and the movement of mainstreaming in Scandinavian countries, has now been advocating **inclusive education.** UNESCO has been in the forefront of advocating education for all and inclusive education for children with special needs. The World conference on special needs education, access and quality held in Salamanca in June, 1994 is considered as a significant milestone in child centred pedagogy which recognised that educational environment in the schools must be created to fulfill the specific needs of all children and that regular schools must accommodate all children regardless of their physical, intellectual, social, emotional, linguistic or other conditions.

The Central and State Governments are committed to provide free and compulsory education of satisfactory quality to all children upto 14 years. The revised programme of action (1992) implementing the policy direction as contained in the National Policy on Education (1986) has endeavoured to provide education to all children before we enter the 21st century. To achieve the goal of Universalisation of primary education, the government has introduced (a) Non-formal education programme, (b) Minimum levels of learning programme, and (c) District primary education programme. If that is so, education of children with disabilities must become integral part of these national initiatives for obvious reasons because: (a) education for all cannot be completed without including children with special needs, (b) primary school in the village or in urban block becomes the natural choice keeping in view its proximity, and (c) it is the issue of non-discrimination and human rights, that those children with special needs are not segregated but included as part of the mainstream. It is a matter of great satisfaction that Persons with Disabilities Act (1995) has addressed the issue of education of persons with disabilities by offering wide range of educational opportunities such as part-time classes, functional literacy, non-formal education, education through open school, interactive electronic or other media in addition to providing support services such as transport facilities, removal of architectural barriers from school, supply of books, uniforms and other materials, and scholarships to students with disabilities.

The National Sample Survey (1991) in its report No.393 observed that in rural India about 70% of persons with physical disabilities such as hearing impairment, visual impairment and orthopaedic disability were found illiterate as against 46% in the urban India. Only about 3.5% of disabled persons in rural areas had reported educational level of secondary and above as against 12.3% in the urban blocks of India. Regarding enrollment of persons with disabilities, 45.8% of rural disabled persons in the age group of 5 to 14 years were currently enrolled while in the urban areas current enrollment was 55.2%. On the other hand 44.2% of the rural disabled population in the age group of 5 to 14 years were never enrolled in ordinary schools as compared to 36.2% in the

urban areas. It is pertinent to report here that enrollment of children with disabilities in ordinary schools was only 0.01% both in urban and rural areas. Therefore, enrollment as well as retention in school is a major problem for children with disabilities. Though no reliable data are available, experiential information does point out to several problems faced by children with disabilities in attending regular schools, such as (a) lack of transportation from home to school and back, (b) inadequate training on management of children with special needs in preservice training to the teachers of regular school to respond to the special educational needs of the child, (c) inadequate preparation of regular school children to accept disabled children in the regular school set-up, (d) lowered expectations on the part of the parents regarding the capability of their disabled child to receive general school education keeping in view the severity level of the disability, and (e) school refusal to admit children with disabilities.

To meet this challenge, wide ranging efforts are required. The first aspect is the re-orientation of the regular school systems to facilitate admission for children with disabilities. This will ensure application of **zero reject policy**. Further, children with disabilities will be able to go to the neighbourhood schools which are closer to their residence, thus overcoming the problem of transportation. This effort will also ensure non-discrimination and promote mainstreaming. In order to encourage this, it is advocated that such schools admitting children with special needs be given support to meet the extra cost towards education such as learning aids, braille books, low vision aids, special assistive devices for locomotion, posturing, sitting, hearing aids, etc. In addition, legislative measures such as reservation of 3 to 5% of seats in schools for children with special needs can also achieve quick results.

The second aspect relates to training of teachers. Few attitudinal surveys conducted in the country have reported positive response from the teachers indicating that they are receptive to take a child with special needs in their class. However, they report inadequate training to handle such children in the class. Few progressive universities

offering B.Ed. programme for preparing school teachers have already included a separate paper on special education. This is a step in the right direction to ensure universalisation of elementary education. In order to make sure that children with disabilities who go to the regular school in the neighbourhood do not drop out, teachers of regular schools will require two kinds of support programmes - inservice training programme on management of children with special needs and support from a resource teacher in planning and teaching of children with special needs.

The third aspect that needs to be worked out is the modifications in the curricula, without compromising on the quality of education and competency level expected to be achieved by all children in a given class. Relaxations are required keeping in view the specific disability of the child with special needs. For example, children who have difficulty in seeing will not be able to read the map or complete geometrical problems. Instead, alternative add-on programme for specific groups of children with special needs will be more appropriate. Similar modifications are also required in the examination and evaluation system so that children with disabilities are not at disadvantage. For example, a child who is blind would require the services of the writer, while a child who has cerebral palsy would require extra time in completing the theory examinations as he writes slowly.

The fourth aspect is peer group support in the class and in the school as they constitute significant part of the environment of the children with special needs in the school. Few studies have clearly reported that normal peers have positive attitudes towards children with special needs, while parents of normal children also welcome children with special needs in the regular class. Further, normal peers were able to assist regular class teachers in teaching tasks to children with special needs. Western literature has reported beneficial effects, both, for the child with special needs as well as the normal peer when they study together in peer tutoring set-up.

The fifth aspect is the modes of providing assistance to children with special needs to cope with the educational standards of regular school. Often it is assumed that children with special needs will not be able to get individual or special attention from the teacher. It is reported in the literature with instances where several kinds of strategies were adapted to teach and train children with special needs within the classroom setting of a regular school. Such strategies include: (a) remedial education or resource room teaching, (b) peer tutoring, (c) community volunteers, (d) buddy system, (e) learning centre within the classroom, (f) itinerant consultant, (g) cooperative learning in small groups and (h) preparation of classroom time-tables in such a way that teachers have some time available in giving special coaching to children with special needs.

Keeping in view the above mentioned aspects, if one needs to implement the zero reject policy, there is a need to upgrade the knowledge and skills of regular school teachers in the areas of nature and needs of children with disabilities and assessment, strategies, methods and material to prepare children with special needs to be integrated in regular class. With this endeavour, the Department of Education of Ministry of Human Resource Development initiated the task of developing a resource book on school readiness for children with special needs to serve as a guide to preschool and primary school teachers, as well as to special teachers and parents.

This book was developed by requesting professionals in the field of respective disabilities to develop the draft. The content outline was already decided based on the requirement for DPEP and each section was developed keeping in mind the requirement of the preschool and primary school teachers for integration of children with special needs. Suitable illustrations were made by artists in consultation with the respective chapter authors and were incorporated. The draft book was sent to experts in the field of disabilities in the country, the name list of whom are given alongwith the acknowledgement in the early pages. The comments and feedback given by them were suitably incorporated in the text. Further the book was field tried among the

preschool teachers. The field trial included 15 preschool teachers, the details of whom are given in Table-1.

Table-1: Details of school teachers included in the field trial

Age & Sex

20-25 yrs		26-30 yrs		31-35 yrs		36+yrs	
M	F	M	F	M	F	M	F
-	5	2	5	-	2	-	1

Qualification

XII+PST*	XII +	Graduate	Graduate+PST	P.G.
6	3	1	4	1

*Preschool teacher training/montessori training

Classes taught

Nursery	Kindergarten	I*	II*	III*
4	6	3	1	1

*have taught preschool classes in the past, currently teaching the above classes.

A pre-test including information in nature, needs and management of children with special needs was conducted and the subjects (the preschool teachers) were given the book for a week to study or use. After one week the post test was conducted on the same questionnaire used for pre-test. The t-test results revealed that the gain was highly significant ($t = 17.8$: $p < .001$). The teachers were also given a 5-point rating scale requesting their ratings on various characteristics of the book as seen in Table-2.

Table-2: Teachers' rating after using the readiness book

Item	Least Appropriate	Can be Improved	Average	Appropriate	Most appropriate
Size of the book	-	-	3	8	4
Content	-	-	1	9	5
Presentation	-	-	2	9	4
Illustration	-	1	5	6	3
Language	-	-	4	7	4
Suitability to preschool teachers	-	-	-	4	11
Utility	-	-	-	5	10
Style of presentation	-	-	3	9	3
Overall ranking	-	-	-	11	4

As it could be seen in the ratings, the book was found to be highly useful and appropriate on the whole for use by preschool teachers. Responses on the open ended questions on the comments and suggestions were also collected and the comments given by them were incorporated in the book to give it its final shape.

This book on school readiness for children with special needs is targeted towards parents, pre-school teachers and teachers in regular schools. Involvement of teachers is required so that using the resource package given in this book, the teachers can guide the parents to prepare the child for admission in regular schools using the

exercises, activities and directions given. This book is also designed as a resource package for literate parents who can help their child in mastering competencies which must be achieved before joining a regular school. The intention is to prepare teachers and parents so that a child with disability is not denied admission in a neighbourhood regular school.

Early intervention programmes, early childhood education programmes and preschool programmes such as nursery and kindergarten or alternatively anganwadis are designed to prepare a child to have sufficient independent functioning required for admission in a school. For example, a child with mental retardation in early intervention programme is given training in cognitive, social, language, motor, and self-help skills. Depending upon the severity, age and current level of functioning of the child, programmes are designed to encourage self feeding, toiletting, dressing, gross motor and fine motor skills, language skills, etc. On the other hand, a child with visual impairment is taught orientation and mobility, while a child with hearing impairment is encouraged to use hearing aid and lip reading. All such programmes are designed to prepare the child with disability to join the mainstream of education.

Children are also required to master pre-academic skills, which are necessary for obtaining success in school related tasks such as reading, writing, computation and problem solving. School readiness, therefore, has to take into consideration activities for pre-reading, visual discrimination, sound discrimination, problem solving and reasoning, pre-math skills such as comparing, labelling, and measuring quantity and use of symbols related to quantity, the concepts of few-many, more-less, and equivalence-non equivalence of objects. Children have to be oriented to alphabets and numbers. For example, in numbers children should not only be able to discriminate one number from another, but also master the concepts such as fourness of four, twoness of two, four as more than two and so on. Acquisition, maintenance and generalization are important steps in learning. Parents are requested to consult the school readiness

book so that they can design training activities which are as close to the living environment of the child as possible. Few of the principles followed in this book are: (a) teaching activity must be age appropriate; (b) it should incorporate activities that are functionally relevant to the child with disability; (c) the training activity must be relevant to the community environment surrounding the child; (d) we must take into account pre-requisite skills for learning new activity or task; (e) we should adopt direct instructional approach in which each skill is taught directly in the conditions in which it is essentially expected to be performed and (f) in order to ensure maintenance of learning, the practice should be distributed systematically so that the learner having acquired the skill continues to perform the skill.

It is hoped that this book serves as a guide to parents and teachers to encourage not only admission of the child in the regular school but also retention of the child. Problems and difficulties are expected, which have to be overcome as we go along in this task of preparing children with disabilities having full and equal rignts as future citizens of the country. Further comments and suggestions by the users are welcomed for future editions of this book.

VISUAL IMPAIRMENT

VISUAL IMPAIRMENT

INTRODUCTION

A child with Visual Impairment is a child like any other normal child. Education of the visually impaired children in India is one century and a decade old. There are many facilities for blind children for education. Yet the enrollment of the visually impaired children in schools is not upto the expectations.

One of the main reasons is that by the age of 5, the blind child is not ready for schooling. In case of a school going aged sighted child, the age and ability go hand in hand attaining maturity at each stage of growth and development. For a sighted child with use of vision, everything goes on naturally. But for a sightless child because of lack of visual stimulus, imitation learning does not occur. Many skills are poorly developed and at times there is a possibility that certain skills are not at all developed.

Education of any child begins at birth. The child's education and way of life are largely influenced by the family and the environment. With the advent of many scientific gadgets, sightlessness is not a loss but only a limitation. A visually impaired child can perform many tasks provided he is given proper training and relevant guidance as early as possible in his life.

MEANING AND DEFINITION

According to Dictionary "blind" means - absence of sight or inability to see. But in reality many persons who are blind for all practical purposes may have light perception or little residual vision.

Blindness or Visual disability is a medical phenomenon. Before attempting to define visual disability one should know two important aspects of assessment of vision.

(A) VISUAL ACUITY

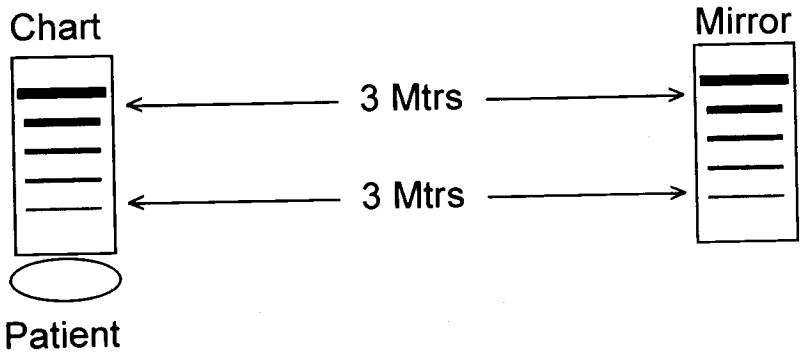
Visual Acuity is the ability to see things or objects which are of different sizes from various distances with healthy eye. It is tested with a chart called 'Snellen Chart' named after the Dutch doctor Herman Snellen who developed it.

All India Institute of Medical Sciences, New Delhi has standardised the snellen chart.

E	6/60
XA	6/36
XAV	6/24
AXAB	6/8
AXCD	6/12
ADFG	6/9
BFHG	6/6

Snellen chart

The snellen chart is placed in front of the person whose vision is to be tested exactly at a distance of 6 metres. Sometimes the doctors hang the snellen chart above the patient's head and place a mirror on the opposite wall at a distance of 3 metres.



The person is asked to read the letters from the topmost line downwards. A person without any visual problems will be able to read the last line which is marked 6/6 meaning he has normal vision. If a person has problems with his vision he cannot do so. Hence the visual acuity of a person is thus estimated to the corresponding fraction of the line on the chart he could clearly read. If a person could read the letters on the line corresponding to the fraction 6/24 and not below, his visual acuity is 6/24. It means that the person's vision is decreased that he has to come to a distance of 6 metres to identify an object which a normal person could identify from a distance of 24 metres.

The Visual Acuity is tested separately for each eye.

(B) FIELD OF VISION

If a person with normal vision looks at an object in front of his eyes or looks straight at all the things or articles to the degree of 180 that come into the purview of vision, it is known as field of vision.

(C) DEFINITIONS

Blindness is defined by People with Disabilities Act (1995) as follows

a) total absence of sight or

b) visual acuity not exceeding 6/60 or 20/200 (Snellen) in the better eye with correcting lenses or

c) limitations of the field of vision subtending an angle of 20 degree or worse

Generally without this Snellen chart, a person is treated to be visually disabled,

i) if he/she does not have light perception

ii) if one could not count fingers from a distance of 3 metres with light perception.

(D) INCIDENCE AND PREVALENCE OF VISUAL DISABILITY *

A. INCIDENCE

During a year about 25 persons in rural area and about 20 persons in urban India are born or otherwise become visually disabled per 1,00,000 population.

B. PREVALENCE

The number of visually disabled persons per 1,00,000 population is estimated to be 300 in urban areas and as high as 525 in rural areas.

* (Source: A report on Disabled Persons - 47th round, July-December, 1991 - Report No.393, Pages 16, 17 and 21).

BASIC LIMITATIONS OF BLINDNESS

In the absence of vision, a person has these three basic limitations.

* **Experiential deprivation in the range and variety of experiences.**

* **Mobility.**

* **Control of environment and self in relation to it.**

The above three limitations in turn affect one another.

Basically the lack of the following, hinders a sightless child's development.

- visual stimulus.
- object performance.
- concept formation.
- imitative learning.
- incidental learning.
- relational learning.

Adding to the above aspects, the overprotection by parents also limits a blind child's range of experiences. A sightless child may not be able to develop certain skills that a sighted child can perform in the preschool years, because of lack of opportunities given by the parents to even attempt such skills. As a result, a sightless child's development in infancy and childhood lags behind the other normal children. Before attempting to teach any readiness activities for schooling, an essential aspect which is a must is EARLY STIMULATION.

LOW VISION

As per the Persons with Disabilities Act 1995:

"Low Vision" means a person with impairment of visual functioning even after treatment or standard refraction correction but who uses or is potentially capable of using vision for the planning or execution of a task with appropriate assistive device.

THE DEVELOPMENT OF VISION

Visual ablities are developed automatically and is determined mostly by visual acuity. Visual functioning has a direct relation to the kind of impairment and visual ability depends upon the degree of impairment.

In the first instance a child develops the skill of ATTENDING to the objects in his immediate environmenrt. The child next GRASPS the information. The TRACKING helps the individual to know his position in relation to the source of the light. DEPTH PERCEPTION is the next stage which enables to perceive the three dimensions. FORM DISCRIMINATION is the next skill which is developed by observation using tactile skills and residual vision.

MANAGEMENT OF CHILDREN WITH LOW VISION

Report of the Opthalmologist, the visual behaviour of the child, general health of the child, emotional stability of the child and the time of the day the child experiences difficulty are to be studied before assessing children with low vision.

Class Room:

Seating arrangement in the class room, the blackboard and its contrast, the position of desks and bookrest which can be adjusted vertically or horizontally are the important adaptations that are necessary for a low vision child in a class room.

Illumination:

Maximum visibility should be provided at the place the child performs his learning activity. Lights are to be arranged in such a manner that glare is reduced to the minimum or no glare at all. The classroom should be such that sunlight comes from all the directions into the classroom if lighting arrangements could not be done in a classroom.

The floor and ceiling are to be taken care of as the material used should be non-glazed. It is also important that uniform lighting conditions prevail in the classroom.

Personnel:

The teachers, authorities in the school and parents play a vital role in encouraging the child towards better achievement academically. The close cooperation of the Opthalomologist, Optometrist and Orthoptist is necessary.

ACTIVITIES FOR DEVELOPMENT OF VISUAL EFFICIENCY IN CHILDREN WITH LOW VISION

A. Developing interest in SEEING: By exposing the child to various lighting conditions, encouraging to see, discussing what was seen, and comparing a three dimensional and a two dimensional figure using VARIETY of objects he sees, generally develops interest in the child.

B. FIXATION AND FOCUS through ATTENDING is an important activity. Providing enough time to see and perceive coloured lighting, variety of toys and the child's photographs in bigger sizes encourage the child to attend.

C. TRACKING means following a moving object. The child should be encouraged to draw whatever that interests him or her. The child can be asked to follow a

ball or a torch which is being moved. Dotted lines can be given to the children. As they mark lines through the dots, they get a picture.

D. RECOGNITION of objects through giving models (3D) or graphical representation (2D); names of colours and brightly painted figures and always verbal association to the object will help the child in recognising the objects.

E. VISUAL MEMORY GAMES: Flash cards and objects improve memory. Through the games slowly the time of exposure can be reduced, and number of stimuli increased. Categorization shall also help in visual memory.

F. VISUAL CLOSURE can be taught to the child by identifying and categorizing the objects. Filling the omitted or the missing part of the objects, picture arrangement and picture completion games will be of great help.

SUGGESTIONS TO THE TEACHER

1. Visual discrimination may take more time because of his or her condition of the eye and reduced vision. So never make the child do anything in a hurry. Let the child learn in his or her own pace.

2. Always try to present materials of bright colours in bigger sizes. Always see that the selected colours are easily distinguishable. For example, take green and red but not green and blue.

3. See that the child works in better lighting conditions. Also take care that there is no glare.

4. Many children would like to have auditory clues along with the material. So if possible, provision for auditory input helps immensely.

5. The teacher's flexible approach is very important. Never say that the child has failed but term it as 'will do better next time'.

AIDS AND APPLIANCES FOR LOW VISION

Low Vision Aids:

These are the aids that magnify the matter. These may be telescopic or microscopic.

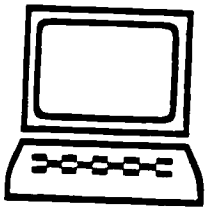
Handheld magnifiers may be like disc, round, flat or rectrangular or sometimes prism like. Now a days magnifiers are available with illumination.

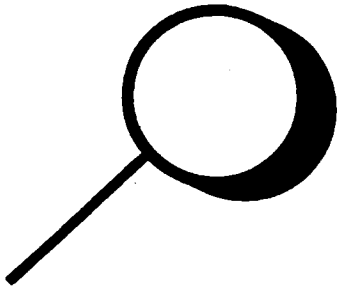
Book Stands:

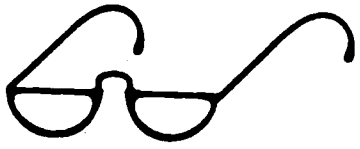
Adjustable bookstands may be of desk or pedestal type.

Close Circuted TV:

The CCTV is of immense help to the child. They can read books and printed matter. The size of the letters, and the contrast can be adjusted as per the needs of the child.







Other aids comprise filters, pin holes, side shields, typoscopes etc. In addition, LARGE PRINT MATERIAL is of vital importance. Any material can be enlarged at no time with a little cost using the xerox machines which have the facility to enlarge.

COMPUTERS:

With the advent of Multi media Computers and educational software, it is easy to get the required magnified text and the computer can read the material line by line or word by word, faster, slower and even spell each word.

COUNSELLING AND GUIDANCE

Placed among sighted children, the visually impaired children are mostly neglected in their homes at the early stages.

The parents have to be made aware of the needs of their children and intervening methods.

EARLY STIMULATION

Stimulation for a sightless child means providing of opportunities to explore and experience things and objects in the immediate environment by using the remaining senses.

For a nondisabled child the stimulation comes naturally through interaction with the immediate environment. But it is more often difficult for a sightless child. To minimize the developmental delay it is always better to provide stimulation as early as possible.

Understanding developmental needs

Early stimulation provides many opportunities to a disabled child to overcome the disabling effect.

Vision is the strongest stimulation which initiates action. The movement of body parts through visual stimulus helps as an exercise to strengthen the muscles.

In the early stages, imitation plays an important role in learning. In the absence of vision, a child needs to be taught to respond to stimuli other than vision. The sightless child's limitation in terms of mobility restricts him from exploring his immediate environment and objects. Hence these needs are to be met.

Major areas of intervention

Physical and motor

Cognitive

Language

Social and emotional

Developmental stages

Pre-walking stage includes Holding up head, Sitting, Creeping and crawling, Control of arms and Control of legs.

* Muscle coordination and skill in using hands and body are delayed, due to lack of visual stimulus.

* It is not possible to follow an object and attempt to reach.

Walking Stage (about 15 months) includes upright position, balance, go forward and gait for running and jumping, which is delayed in a blind child due to

* poor motor skills.

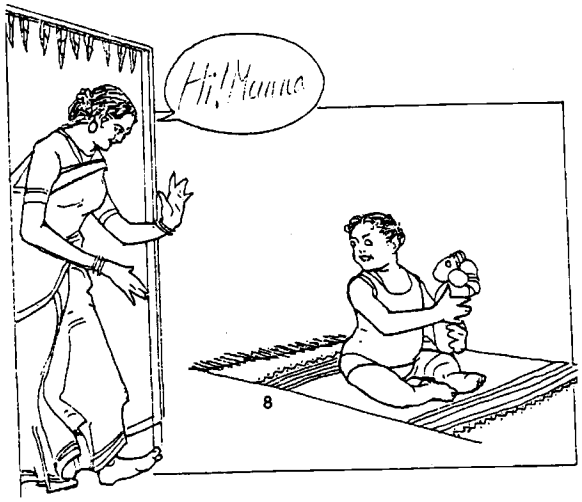
* no opportunity for Imitation.

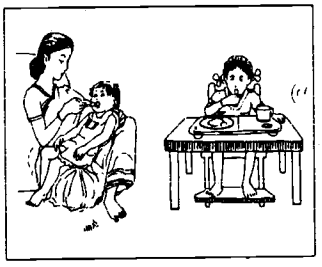
Suggested Activities for early stimulation

* Talk to the child while approaching him/her.

* Always call the child by name.

* Talk to the child while feeding.



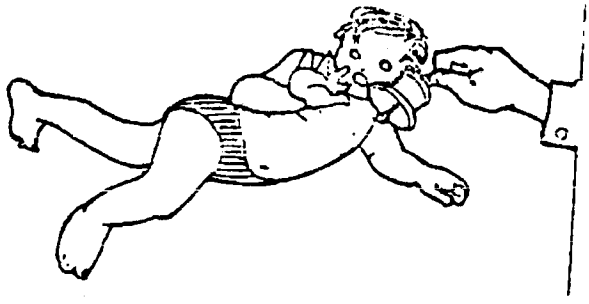


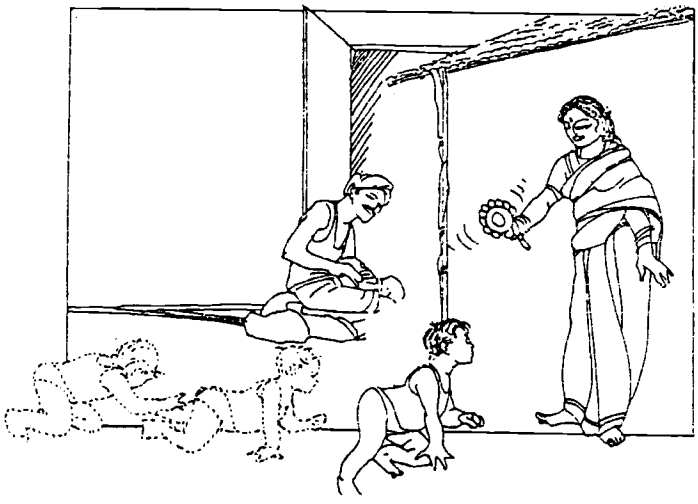
* Hang a rattle within the reach of the child.

* Have a rattle or a bell - make sound so that the child holds the head up.

* Allow the child to hold objects. Ex.: feeding bottle.

* Make sound from various places in the room and make the child turn towards the direction of the sound.



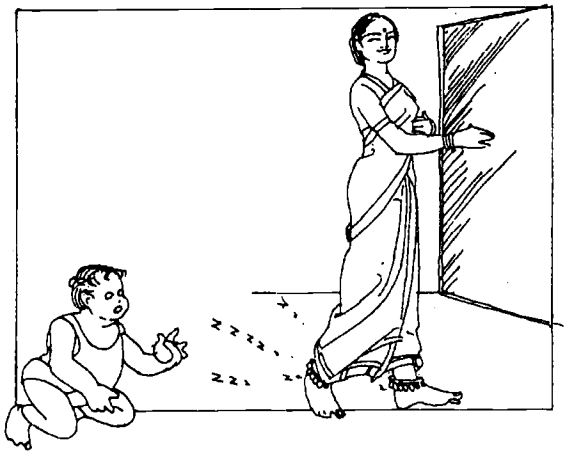


next encourage him to move to places.

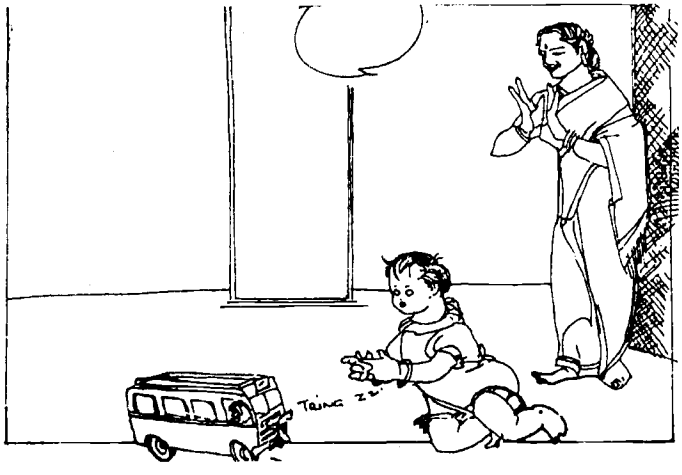
* Let the siblings interact with the child.
* Call him so that he moves his head.
* Attract the child's attention by holding a rattle in front of her.

It is not necessary that these activities be formal or simulated, but make sure that the child spends most of each day in a situation where the child can keep learning about things and people.

Let the child observe the activities that mother does, as she explains the activity in simple words.

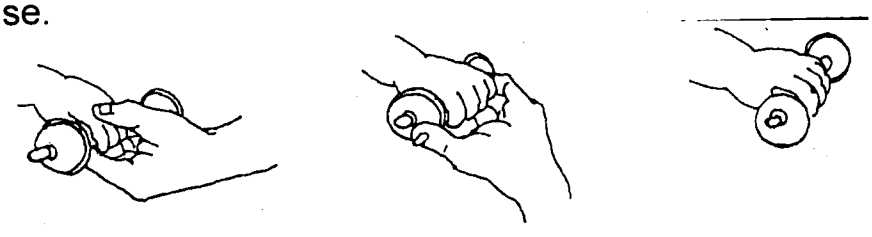


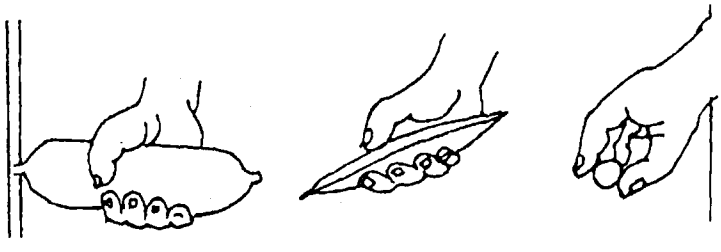
* Let the mother wear jingles/anklets gajjelu and walk a few steps and let the child move towards the sound.



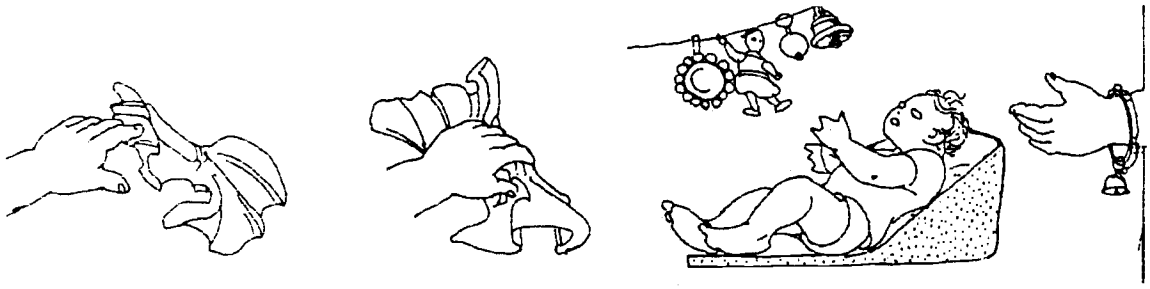
* Let the child follow a toy and hold it which makes sound and moves (with winding key) and get hold of it.

* As the child has no sight, gripping and reaching need to be taught through tactile sense.

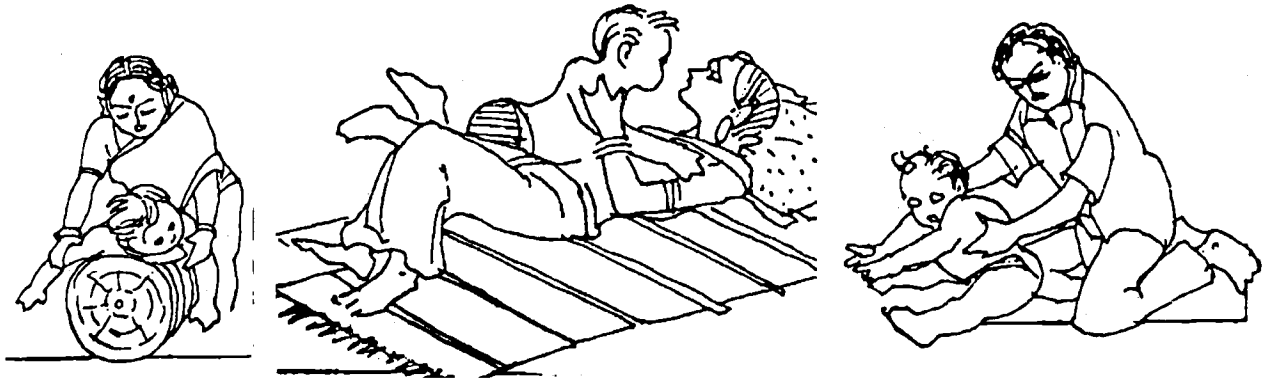




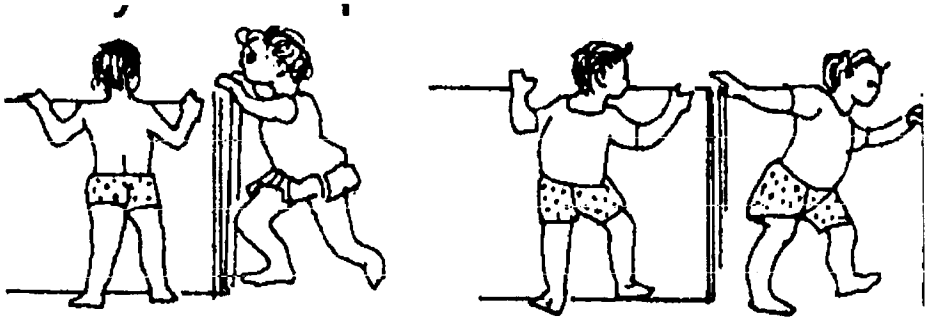
* Allow the child to hold clothes. Hang sound making toys so that the child tries to grasp the toys.



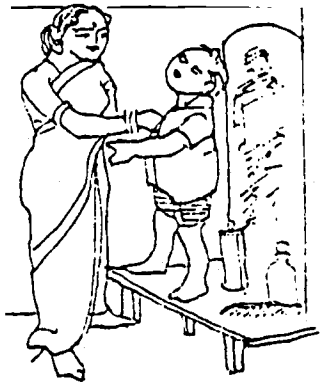
* Stimulation for body control, balance and sitting can be done as seen in the pictures below.



* Encourage the child to stand holding furniture, wall, or locally made pushcarts. You may attach a jingle or bell to the push cart to make sound.



* While doing activities such as feeding, resting, and bathing let the child touch the objects such as tumbler, plate, spoon, pillow, bed-spread, water, bucket, soap and such objects.



* Sing to the child and make the child move his hands (any action songs).

Let the child feel mother's nose, mouth, etc.

Listening to words and naming the objects while the child explores will make the baby comprehend and develop object performance through formation of concepts.

The above are only some suggestive activities but the parents have to be sensitized to provide any experience that could be given to the child in their daily home activities.

- Involving more than one sense - multi-sensory approach and situational approach are to be kept in mind.

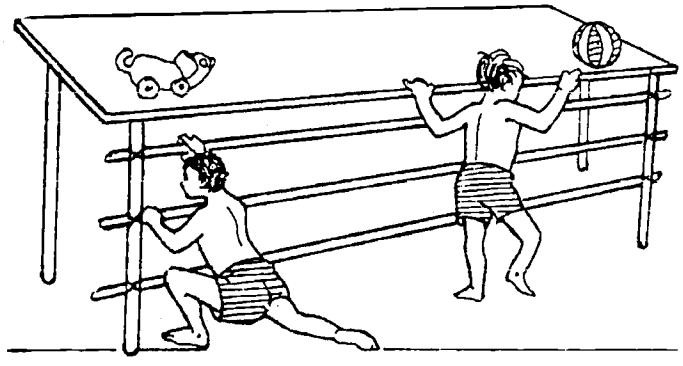
Skills of Independence

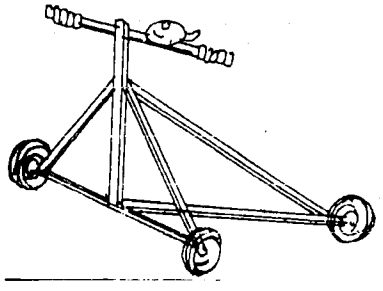
Mobility

As the child develops certain amount of skills in the prewalking stage, his mobility skills should be enhanced. Mobility is of vital importance to a blind child as the child explores his immediate environment.

The child has to be helped to stand and walk forward.

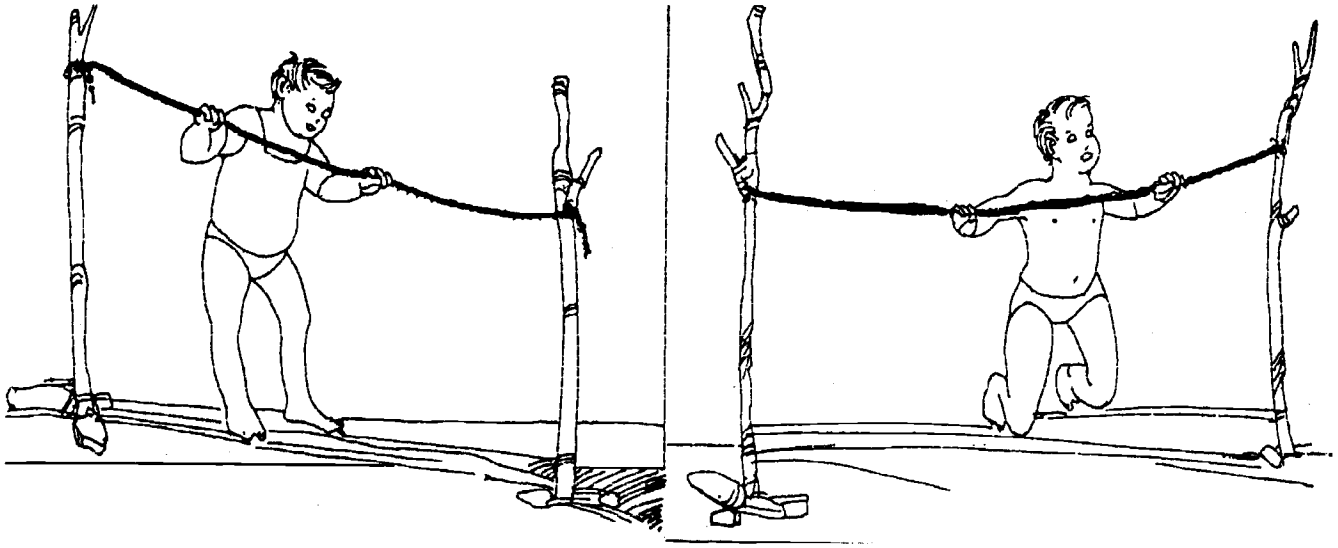
* Use locally made push carts or tables with bamboo sticks fixed at different levels as seen in the picture.



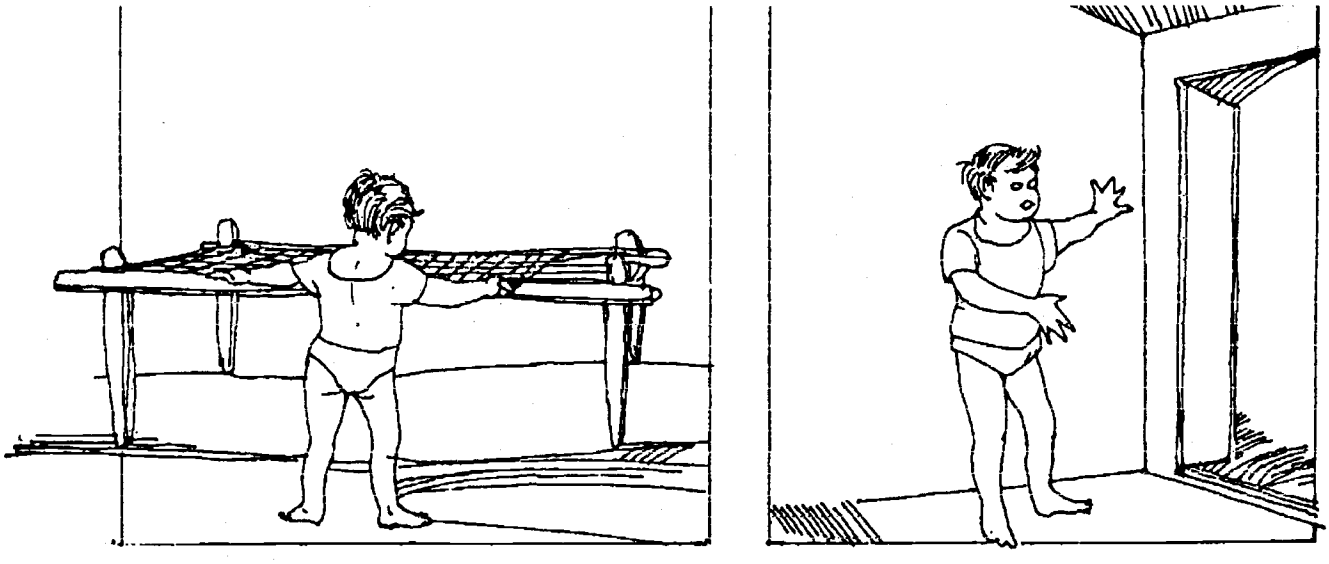


* Walk and let the child walk behind you.

* Let the child walk forward and backward holding a rope tied to two ends.



* Let the child walk tracing a cot or a wall.



Skills for Daily Living

As soon as the child is capable of moving independently and able to hold objects and manipulate them, various activities are to be taught which should make the child self-sufficient. All tasks related to each of the daily living skills need to be taught.

Dressing :

Includes sub-tasks such as fasten and unfasten buttons, hooks, zipper, etc., tying and untying laces, remove shirt, trousers, skirts, etc., put on shirt, trousers and skirts and related activities.

Cleaning Teeth:

Includes sub-tasks such as identifying brush, paste, powder from the specified places, squeezing the paste, taking powder on the palm, brushing/cleaning, washing, tongue cleaning, rinsing mouth and gargling.

Cleaning body parts :

Includes sub-tasks such as washing hands, face, legs and other areas and wiping.

Bathing :

Includes sub-tasks such as applying soap, scrubbing, washing off soap, use of towels, use of appropriate utensils - bucket, mug, etc.

Toilet Training:

Includes sub-tasks such as location of place, unbuttoning, using the toilet, using water to clean, dressing up, washing hands with soap and flushing.

CASE STUDY : 1

Master Giridhar is the only child to his parents. His father is a farmer and mother a house wife. Both parents are uneducated and live in a village called Ojili near Gudur, Nellore District.

Giridhar was 6 years of age when identified as having difficulty in seeing and was taken to Sankhara Nethralaya, Madras for clinical assessment. It was confirmed that he is a low-visioned child. It was difficult to train him at home. As the distance being 3 hours journey from home to school, he was admitted to the residential integrated school. Even though over-aged, he was admitted in KG class. The trainers-special educators for the blind, had only magnifiers with them. The trainers prepared an aid with the magnifier to enable him identify letters.

The magnifier was fixed to a microphone stand which bends to the required position. He started learning alphabets. Another aid was prepared with a switch board box which is open on one side, fixed with magnifier and arranged with a bulb with batteries. The box was kept on the book and light switched on. With magnification and illumination, the light did not escape the box but focussed on the text and made Giridhar progress exceptionally well. He was promoted to 2nd class by the end of 1st year. The regular teachers were of great help. Seating arrangements, with adjusted desk was provided to him. The management was very kind and provided appropriate lighting arrangements and even re-white washed his classroom. The specially trained staff took pains to write lessons, questions, answers and solutions in maths in bigger letters using various colour sketch pens on coloured paper.

The regular teachers allowed him some extra time to grasp the instruction in the class. By the end of fourth year of his schooling, Giridhar found himself in Class VI. He is academically very good and gets second or third rank, which made other sighted friends in his class pay attention to their studies.

With the facility of enhancement of size of letters with xerox machine, he is equipped with the large print material only at little bit more money spent on his books which is worth. The parents are completely supporting his education financially. The teachers in their village voluntarily write questions and answers for him in the summer vacation in large print.

The local carpenter made a moving box with wheels, open on one side which is fitted with a big magnifier which when kept on ordinary book moved left - right - up - down while reading.

The school readiness in the school itself in the first two years of school and follow-up at home in the weekends proved fruitful and he is at present looking forward to going for higher studies and plans to own a computer which may help him in his higher studies.

* * * *

Combing :

Includes sub-tasks such as applying oil on hair, positioning of comb, combing.

Eating :

Includes sub-tasks such as washing of hands, sitting posture, identification of eatables, mixing rice with curry/breaking chapathi, to put food properly in mouth, to chew properly, position of water and other dishes in order, the remaining/waste to be put in a dust bin, cleaning the plate and so on.

Encourage use of other senses in all activities.

Body Image

The parts of the body and the movement and functions have to be taught.

Song/Game such as "head, shoulder, knees and toes" and other songs in regional languages will be helpful in teaching body parts.

The child is asked to touch the corresponding part of the body. Start slowly - increase the speed of saying the above sequence. Teach also the following - translated to chosen language if needed.

Simon Says:

Simon says touch your nose - the child should touch the nose.

Simon says touch my mouth - the child touches mother's mouth.

* Introduction of body parts - legs, feet, hands, finger, head, tongue, etc.
* Identify the body parts of siblings.

* Movement of body parts:

i) roll your head.

ii) roll your arms.

iii) raise your arms.

iv) lift your leg.

v) Rotate the hip.

vi) walk forward.

vii) walk sideways, etc.

Simon can be replaced by a familiar Indian / regional name if needed.

Activities for independent mobility

* Once the child is able to walk and acquires little language the child should be encouraged to move from place to place.

* He can be asked to come to the door from the place where he is sitting. Care should be taken that no obstacles are on the way.

* Make the child find out the water pot.

* Let the child locate the place for bathing.

Insist that the child should be allowed and encouraged to move about in his house and immediate surroundings. Initially the places and locations have to be introduced and then slowly guide him to move.

Manneristic Behaviour

"Manneristic behaviour may be defined as a repetitive or stereo-typed movement that is not directed towards the attainment of any observable goal" (Eicher, 1979). Manneristic behaviour is unsightly. Further, it may interfere with the development. Poor posture, gait and poor body image may result in manneristic behaviour. The children should be taught proper gait, posture, and proper body image which go hand in hand with the earlier mentioned activities for early stimulation. However, when some kind of manneristic behaviour is observed, it has to be corrected at an early stage, preferrably in school readiness stages.

The key to correct manneristic behaviour is "as and when - then and there".

Some suggestions:

- use of reinforcement.
- relaxation.
- substitute activities/alternative activities.
- reminding constantly.

LANGUAGE DEVELOPMENT

The success of skill in reading depends a great deal on the development of language. Before learning how to read and write, the child should be able to express himself clearly and understand others. Hence, the teacher should first provide children with such experiences that promote language development before they introduce reading and writing to them. Certain activities that are helpful in developing language in children are listed below:

* Conversation
* Story-telling
* Solving riddles
* Rhymes
* Make-believe play
* Excursions

Language development in a child with visual impairment is close to that of a normal child. Most of the activities that we provide to a normal child can be provided to children with visual impairment also.

Method of story telling

1. Telling stories without any aids.
2. Telling stories using
   a) Models instead of pictures/embossed cards
   b) Puppets

1. Pictures and cards, flannel graphs and picture books should be substituted with models of animals, flowers, etc and gradually embossed cards should be introduced.
2. Puppets: Let the children use the puppets.

Sequential Thinking

Simple stories such as 'The crow' can be graphically embossed on three cards and then have the children arrange them in order.

SPECIFIC ACTIVITIES FOR READING, WRITING AND NUMBER READINESS

The success of any activity depends on how well its preparation has been done. Reading and writing also require preparation, especially when it has to be taught to young children. When young children enter school for the first time, they should not immediately be loaded with books, nor should they be asked to take a pencil and start writing.

Children should come to school happily and take interest in the school activities. Keeping this in view, games, songs, stories and other creative activities should be included. Similarly, during the preparatory period it is also necessary to introduce such activities which help the child to learn to **Read-Write** easily and acquire **Concept of Numbers**.

In writing braille the child has to emboss dots on paper. For such skills the number of dots corresponding to each letter has to be by-hearted by the child. Hence, oral drill in numbers is essential to children without sight.

Activities for Reading Readiness

Tactual tolerance

a) Texture discrimination

b) Discrimination in shape

c) Discrimination in size

a) The child should be given enough opportunities to learn and experience various textures, shapes and sizes. This shall enable them to identify and recognise the form of braille letters.

a) Activities for Texture discrimination:

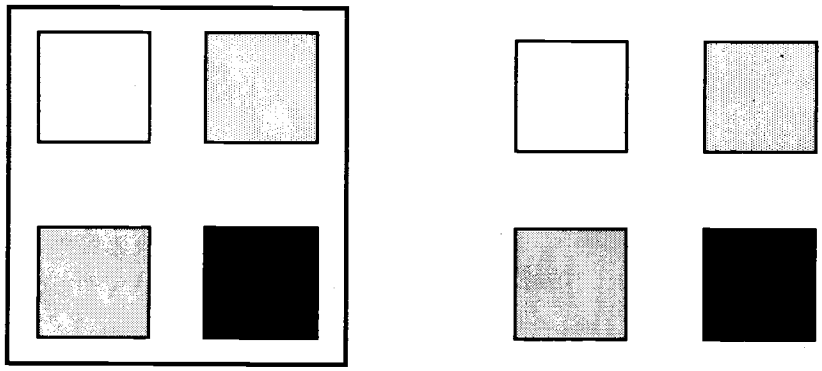
Materials: Textile and papers
Woollen, cotton, flannel, velvet, etc.
Ordinary papers of different thickness, sand papers of different textures.

* Provide the child with different pieces of cloth/paper.
* They should explore and differentiate between rough and smooth textures.

Texture Matching puzzles

Many matching puzzles can be prepared based on the need of the child and with use of different texture and papers.

The child should be allowed to explore various objects in classroom which have different textures.



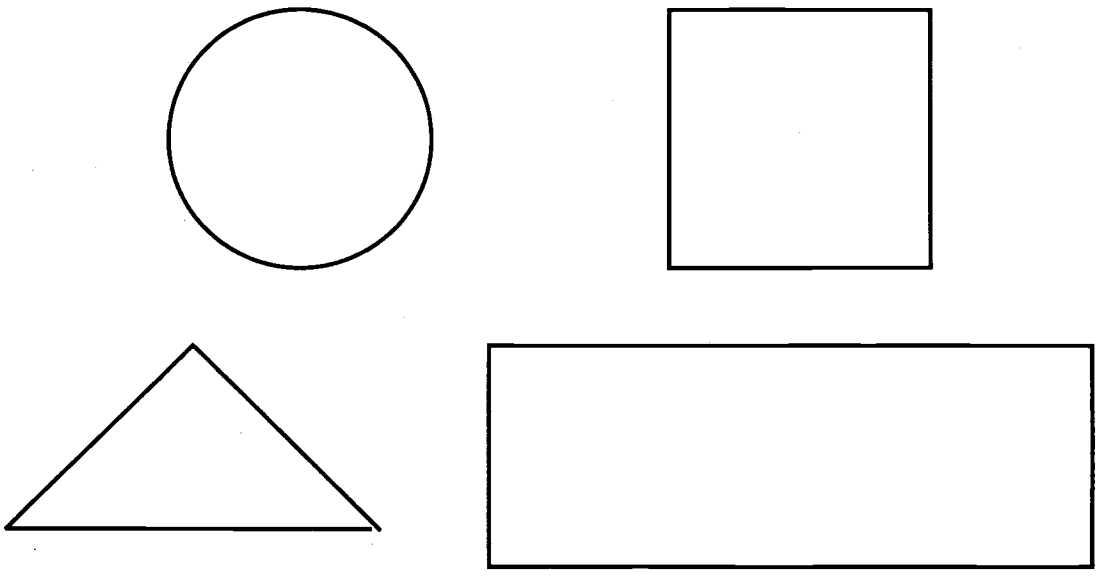
Make a board with 4 surfaces with different textures: 4 blocks having these textures is to be given to the child, and he has to match the texture on the board with the block of same texture.

These puzzles should cover not more than 5 textures at one time. All textures should be easily distinguishable. Start with 2 textures and gradually increase to 5 textures.

Discrimination of shape

The size and shape of objects should be moderate-neither too big nor too small.

1. Introduce basic geometric shapes.



2. Gradually complex shapes are to be introduced.

'Fit block in holes' game is essential. The shapes also may be textured. Matching and categorizing are good play way activities.

3. Objects in class - table, windows, slates, books, balls, glass, bowl, powder tin, shoe boxes and cans may be used. 'Wealth from waste' principle is to be adhered to.

4. Paper cuttings/card board cuttings can be of help.

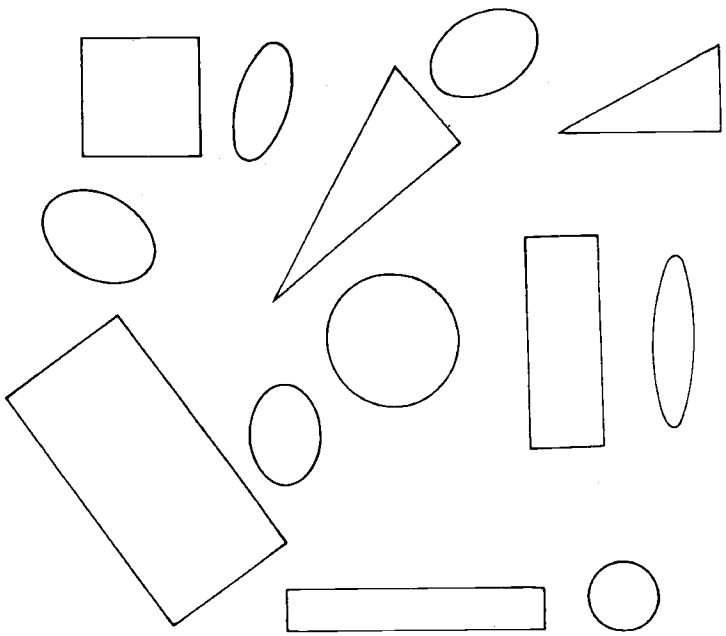
5. Differentiation among non-geometrical and geometrical shapes.

6. Children should be provided with vegetables, fruits, food grains and other objects and asked to name the shapes: correlation of shapes to objects.

7. The Shapes may be of varied textures: mat (ordinary), carpet, etc.

8. Make the child prepare a shape through clay modelling/plasticine.

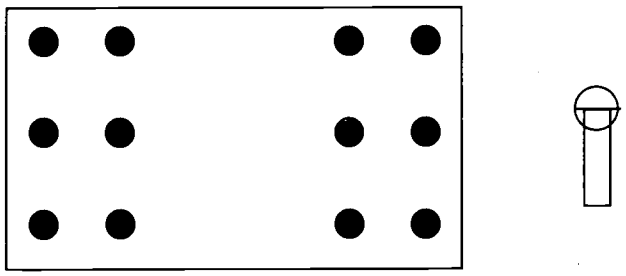
Discrimination of size



1. Pyramids, circles, rectangles, squares and sphere of various sizes have to be introduced.

2. Arranging them according to sizes is of vital importance. Small to big, big to small.

3. Peg boards of different sizes are of help.



Materials in the environment such as utensils, books, fruits and leaves may be used to develop this concept.

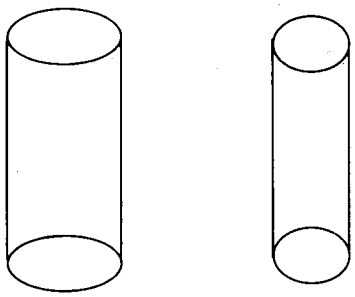
Concept of long/short

* Use threads and sticks.

* Use wooden sticks of different heights and ask the child to arrange in order by size.

Thick and Thin

1. In the initial stages, wooden sticks in the shape of cylinders with various diametres can be used.



2. Various used powder tins and other cylindrical objects may be given to the child to explore and make out the differences.

3. Threads of different thickness also can be used and pasted on a paper in gradually increasing or decreasing order.

Sound Discrimination

Sound is the best substitution in terms of establishing contact with environment.

Training in sound discrimination

a) Sound localization.

b) Sound discrimination.

c) Sound interpretation.

Sound localization

1. Let the child sit in the centre of room.
2. Make the child turn to the direction of sound.
3. Let the child point out towards the direction of sound.
4. Sound is created with the use of audible ball or sound making toys or teacher can clap/use jingles.
5. These exercises can be repeated with different sounds.
6. At the final stages, the child is asked to move to the source of sound and pick it up.
7. Use of sound of clock ticking, radio, TV are also helpful.

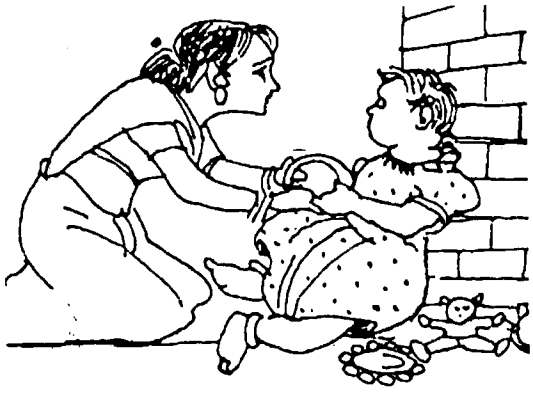
Sound Discrimination

Audible toys, jingles, bells may be used which give different sound.

1. The child should be introduced to two sounds and asked to distinguish between them.
2. Recorded sounds of whistles/honks of automobiles, trains, etc. can be used.

The child is asked to find out the differences in the sounds.

3. With the use of bell:
   - calling bell - electronic, normal
   - telephone bell
   - temple bell
   - school bell
   - rickshaw bell
   - cycle bell
   - jingle bell, etc.



Sound Interpretation

1. Use instruments making different sounds.
2. Make use of musical instruments such as flute, harmonium, guitar, xylophone, etc.
3. Let the child listen to sounds of automobiles and identify them by their sounds.
4. Introduce different sounds of birds, animals and transports through taped cassettes (audio) - cat, dog, tiger, donkey, monkey, cuckoo and other birds.
5. The number of sounds may be increased depending on the pace of learning of the child.

Development of observation:

This can be done in a manner similar to readiness skills for normal children. Make sure that you draw the attention of the blind child by calling him by name and providing tactile experiences wherever possible.

Completing figures

Give models and ask the child to find out flaws as in:

1 a cat without tail,

2 a puppy without ears, etc.

Arranging pictures

Provide embossed graphical representation of pictures and ask the child to arrange in order/sequence.

1 embossed egg: Texture:/thread.

2 half egg embossed, half with figure of chicken.

3 Full chicken embossed.

Picture cards for conversation

Instead of pictures, give them models and make conversations.

WRITING READINESS

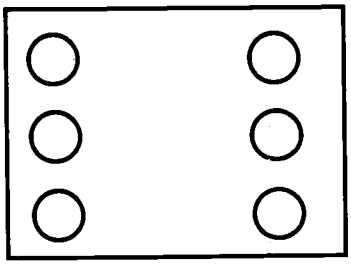
a) Clay modelling

b) Playing with blocks

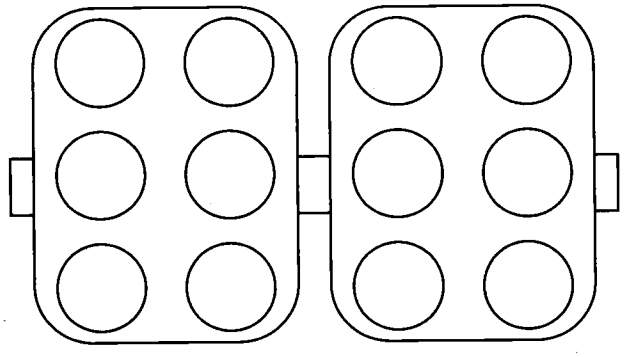
c) Marble boards with marble like in chinese checker.

d) Peg boards

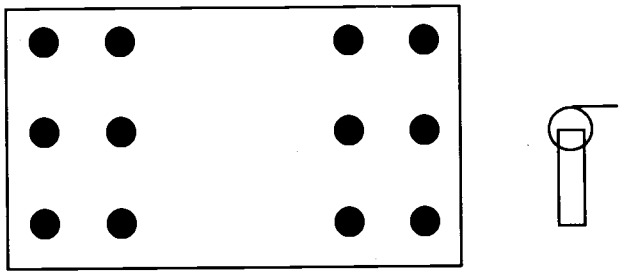
Marble boards



Egg containers (6 eggs)



Peg Boards



CASE STUDY : 2

Master Muniah comes from a family of carpenters. He resides at Tirupathi with his parents. He is totally blind by birth. They have their own house at the outskirts of Tirupathi. The brother of Shivaiah is sighted and studies in a local school.

Munaiah is 13 years old. At present he is studying in VIII Standard in an integrated system at St.Francis School, Venkatagiri. He believes that his life changed after joining the school.

The trainer - a special educator for the blind, met the parents and Munaiah at the bus stop of Tirupathi. They were going to Madras for medical checkup. Munaiah was 4 years old. The trainer spoke to the parents and took their address. After a fortnight, the trainer visited them and found them both depressed. The doctors at Madras confirmed that he could not get his sight back. The trainer counselled them and convinced them to join the integrated school where hostel facility is also available. The trainer and the specialised staff at St.Francis School, Venkatagiri planned "School readiness" programme for 8 months for Munaiah.

All the three specialised resource teachers visited his house, each sparing a day a week. Hence thrice in a week the teachers visited him. One looked after mobility/motor development, another, academically necessary skills such as pre-braille, number work, language, etc., and the third took care of daily living skills.

On sundays, the coordinator and some blind children from the school used to visit his house and spend the whole day.

As Munaiah's father used to work in his house itself, the trainers involved parents in the process of systematic training. Once the instruction is given, the parents were to follow-up which was done regularly. Within six weeks, Munaiah started moving on his own and also started to look after his needs, which made the parents realise that something can be done to him. With renewed encouragement and enthusiasm they attended to each and every intervention. By four months into intervention, he started getting sighted friends into his house and used to spend most of the time with his friends sharing his intervention material with them.

In the next academic year, he was admitted to the school. Certainly the school readiness helped the child immensely and he was the first sightless child to have many sighted friends in school and showed mastery over academic skills. He progressed well and is on par with his sighted counterparts.

At present, he is academically competitive, socially very friendly, personally very tidy. The trainer goes on record placing highest regards to the resource staff who took pains to visit his house and made him READY for integration. As the objectives of integration seemed to be achieved easily, the management extended its helping hand and encouraged to start home teaching for blind children concentrating on "Early intervention and school readiness". The main reason for success of integration at St.Francis School, Venkatagiri was early intervention and school readiness programme. Munaiah will prosper in life with the right attitude and with the spirit of confidence and competence in his postschool life.

Number puzzles

Card boards should have stickers, buttons and/or beads pasted instead of pictures.

In games, if toys and balls are used, they should make sound - audible.

In story telling, if there are flowers, animals, or objects, it is always better to give the blind child specimens, or models.

NUMBER READINESS

* The child should be orally taught songs/rhymes which have number concepts such as one two - 'Buckle my shoe' or equivalent in the regional langauge.

* As braille writing and reading also have the concept of numbers they have to be orally taught numbers.

* Pre-number concepts like:

1.Big - Small	6.Far - Near
2.Tall - Short	7.Long - Short
3.More - Less	8.Wide - Narrow
4.Thick - Thin	9.Left - Right
5.Heavy - Light	10.Low - High

should be taught.

Big and Small

* Make children stand in a circle holding hands -

  Small circle -

  Big circle: they spread out

* The same idea can be given through a card board aid.

Tall - Short

* The children themselves stand in line; keep their hands on their head and findout the next one to right by touching his head, taller or shorter - change sides accordingly.
* One child is asked to make three or four children stand from left to right from short to tall.
* The same can be repeated with other children.
* On paper two threads of different size to be glued and the children are asked to find out the longer/shorter ones.
* Three different lengths of sticks (match sticks or broomsticks) in many number can be given to the child and they may be asked to group them and put a rubber band, around same sized onces.

Heavy - Light

The information that one gets through movements and relative positions of body muscles is known as kinesthetic sense. Kinesthetic sense is to be developed in the children with visual impairment.

* Take two boxes of same sizes

eg. Empty boxes of chalk piece or shoe boxes can be used.

They can be filled with sand and cotton and let the children place them on their hands and find out which is heavier.

* If possible weights that are used in markets can be used.

* Cloth bags of 4 x 6 inches size can be filled with sand and saw dust which weigh differently. Allow the children to feel the weight by lifting them.

Measurements

Children can be asked questions about how their parents buy things like vegetables, fruits, rice, cloth, milk, etc. If they do not know it is better to develop conversation which will enlighten them about various kinds of measurements.

* Glasses/mugs with water can be used to show them how liquids are measured using water.

* A simple balance using thread and used boxes of shoe polish can be prepared.

* Allow them to touch and feel the balance used for weighing grocery items.

* Thread can be used to measure tables.

Far and Near

Play way method can be adopted.

* Concepts like far and near can be developed by keeping an article within the reach of the child and farther away and asking him to reach for them.

* The concepts like up, down, front, back should be developed using the child's body parts.

Time concept

Games and conversations help in developing time concepts.

* Sun rise, day, night - can be discussed.

* A specimen alarm time piece should be used.

A wooden board circular in shape should be made. 3, 6, 9 o' clock positions with two embossed dots should be pasted. Bindiya stickers can be used. At 12' O clock position, 3 stickers and at other places only one sticker can be used.

Number concept:

Games for counting:

* Egg cartons can be used.
* With the use of beads/pebbles, the children are asked to put one bead in one groove saying, one, two, etc.
* The children can be asked to count from 1 to 10 and pile the counted match sticks into a bundle and put a rubber band.
* Small needle with thread can be given to children and asked to bead them by counting.
* The dots in dominoes can be embossed using stickers.
* A wooden plank which has two reversed 'U' shaped wires fixed with beads one side can be made use of. The child has to bring the beads from one side to the other by counting one, two and so on.
* Readily available abacus also is of help.

Creative Activities

When a blind child starts reading, writing and doing arithmetic using the special appliances, he needs to have utmost finger manipulative skills and coordination of muscles of the fingers. By way of creative activities the above skills can be developed.

*** Clay:**

1. The children can mix clay with water and make paste.
2. They can prepare 'Laddus'.
3. They can roll the clay into rods.
4. They can make shapes as they like.
5. They can stuff empty used powder tins, tumblers or small cups and take out the moulded shapes.

*** Sand:**

It would be appropriate if sand pit is available at the centre.

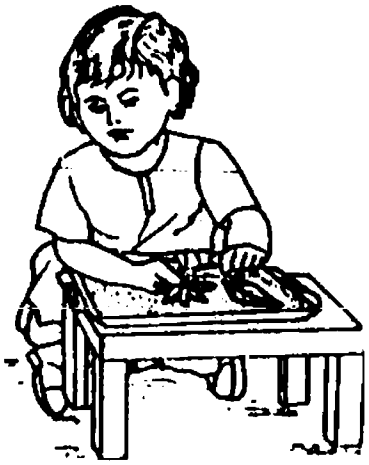
They can play in the sand by mixing sand with a little water to prepare shapes, such as their feet, a hut, etc.

*** Paper:**

The children can be given different textured paper and may be asked to cut into shapes.

The children first of all have to be taught how to use scissors. Shapes of circle, square, triangle and rectangle cardboards or straw boards may be given to the children and these shapes should be kept on the paper and be asked to cut the paper into those shapes by just following the edges.

*** Drawing:**



- Relief sheets specially meant for visually impaired children can be given and they can draw the geometrical shapes using cardboard shapes with stylus.

- The children may be asked to trace the leaves along their edges on relief sheets with stylus.

They can be asked to collect various leaves and paste them on paper.

- These are only a few, but the teacher should think and develop activities for finger manipulation with the use of locally available no cost/low cost material.

Suggested Sequence of Activities

1. Conversation

* Speak to the child, know his name, tell the teacher's name, school and class.
* Encourage the child to talk about himself and his family.
* The child sitting next can be asked to repeat what the first child said.
* The children should be asked to describe themselves their dress, nail, hair, etc.

* Speak to the children about personal hygiene like dressing and bathing, stretched to the entire programme concentrating on the one aspect conversation.
* Converse on domestic animals.
* Converse on domestic birds.
* Converse on flowers commonly found.
* Converse on vegetables commonly found.
* Converse on eatables.
* Let the child talk about modes of transport.
* Let the child describe his experiences.
* Let the child talk about his environment.

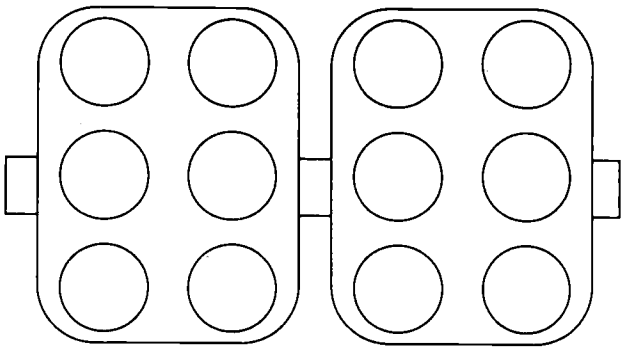
2. Reading Readiness

1. Begin with two objects of different sizes.
2. Give fruits to children. Let them identify. It is a must for a blind child to touch, smell and taste the fruits.
3. Braille the child's name and let him touch it. Ask the child to name it. Explain its utility.
4. Riddles from songs/poems can be taught.
5. Let the child match the shapes.
6. Let the child match the shapes and textures. Provide many pieces in each and ask him to match them.

7. Make braille dots and leave places in between. Let the child point out where the gap is.
8. Sound classification : Give the child a word 'Ball'. Let them make words starting with 'B' - bat, boy, bus, baby, etc.
9. Let the children insert one Peg in ONE position and Say'A'.

   Similarly 1 and 2 pegs say 'B'.
10. Add creatively to the activity list.

Writing Readiness



Play way method can be used.

a. Concept of 6 dots with use of egg box.
b. Marble board

This can be locally prepared with a small wooden plank 3"x5" size where grooves are made so that if a marble is placed half the marble is accessible to touch (above the groove on the surface).

The child is asked to place each marble in order by telling the numbers.

Once all the 6 marbles are placed, let him remove them by saying

one - remove marble, one at no.1

two - remove marble placed at no. 2

and so on until all the six are removed.

The marble board exercise should be given to the child till he masters the concept of 6 from a cell in Braille.

c. Once marble board is mastered Peg Board specially meant for these children is to be introduced.

* The children are to be asked to insert pegs in one cell i.e., 6 holes 1, 2, 3 on the left vertical line from top to bottom, then 4, 5, 6 on the right vertical holes- top to bottom.

* Then they should go to the next cell that is on the right of the first one.

* Once the upper line is over, cells in the bottom line should be pegged.

d. 1. Let the children insert only one peg in '1' poisition in all the cells.

2. Let the children insert 1 and 2 pegs in all the cells and the like.

3. This exercise should be given till the child acquires skill to insert pegs in the board at random following instruction. If the child is asked to insert 4, 5 pegs he should be able to do that, leaving the other holes.

e. Let children make shapes on peg board. Card board shapes should be given as reference.

* The above peg board exercises should be extensively given to children. Basically inserting various combination of pegs help the child to write braille in future.

Number concepts

1. Oral byhearting of numbers one to ten.

2. Concept of big and small.

3. More - Less : Collect some pebbles, marbles, beads, buttons. Provide two or three small boxes/egg carrying box/carton.

4. Allow the children to fill various quantities in the boxes/cartons and name the quantity.

5. Revise the concepts introduced earlier.

6. Before - After : Match sticks/beads can be used. Bindi/stickers can be pasted on a paper. Place hand on one row and ask how many 'above', how many 'below'. Introduce before/after, high/low.

* Break broom sticks into two sizes or use empty powder tins and place them in zig-zag manner. Make the children group all the taller ones and shorter ones separately.

7. Ask the children to arrange leaves and seeds according to their size and texture.

8. Introduce number readiness activity as discussed earlier.

   Let children seriate (place in order) objects/pictures starting from 'longest to shortest' or 'thickest to thinnest' using first, 3 levels and later 5 levels.

9. In dot number dominoes, instead of plain dots embossed dots should be used.

All the experiences that will be provided to a normal sighted child such as music, rhymes, play, art and craft and other daily experiences, can be given to the child with visual impairment also. Ample auditory and tactile experiences are very essential to these children and hence the teacher should consciously make efforts to use all his other senses to the optimum to have the best teaching learning experience.

ORIENTATION AND MOBILITY

In school readiness, orientation and mobility should form a part of the curriculum for pre-school children. In the early stimulation stages, activities are suggested for motor development and walking. Care has to be taken to ensure that orientation and mobility training is continued at school readiness stage.

Orientation is nothing but establishing one's position in the environment and this happens by grasping/gathering information through the remaining senses.

Mobility is purposeful walking from one place to another.

Orientation and mobility training includes:

1. walking independently

2. safely and

3. gracefully

These following techniques may help the teacher to introduce the child to independent walking.

1. Use one hand horizontal above the eyes, palm outwards to protect head from bumping into hanging objects, branches of trees, etc.

2. Use the other hand across the body with palm inwards - protecting lower parts of body. The hand to be diagonal over the belly.

3. Tracing with knuckles any wall/long object eg. Trailing the car - while one has to walk parallel to an object is called trailing.

4. Use heels of feet while taking directions.

5. Hold a sighted person at the elbow of the opposite hand and walk 1 1/2 feet back of the sighted person.

6. Take the child on a tour of the setting/campus of the pre-school.

7. Show him various places: office, class, play ground, toilets, flowers, plants, etc.

8. Send the child on errands in the campus/in the class.

Eg. 1 Ask him to open the door, close a window.

2 Ask him to go to play ground and call one of his classmates.

At home and in the school the child must be allowed to move freely and independently. Encourage him to explore and examine the school campus. Often talk to child, start a conversation on what he observed? Where a particular thing is? What sounds he can listen to? Who is shouting while playing? etc.

These small ADVENTURES at home and in school will be of great help to the child in developing skills of his own to orient to new places. This is the first basic requirement for independent adult mobility.

PARENT COUNSELLING

Parent counselling is a major aspect while dealing with children who are visually impaired. It is evident that parents either get depressed or are on the look out for doctors/hospitals/holy places for getting vision for their children.

The pre-school teacher's first task is to tackle the parents. Listen to them, let them explain what they have to say. Talk to them about the limitations. Explain that their child also can learn many things. Demonstrate that a blind child can do a

specific task. Make them realize and recognise their potentials. Establishing rapport is an important factor.

Many parents complain that they do not have the time. Visit their homes when they are free in the mornings, evening or sundays. Spend time with children along with parents.

Most of the activities in early stimulation have to be taught by parents. Demonstrate one particular activity and let the parents follow it up daily.

Let the parents feel that "there is someone who can help our child". In the periodic visits to homes, talk to parents - how they feel about their child, do they see any change, is the child progressing well, does the technique work? Let them come out with their own remedies. Encourage them to use new techniques but do not insist "this is the only way to do it".

It is obvious that once the parents realize that they can help the child with the teacher's help, it is the basis for better development of child. Hence make parents whenever, wherever possible INVOLVED in the process.

THE TEACHER should be .....

T Tactful

E Efficient

A Active

C Capable

H Honest

E Encouraging

R Resourceful

Apart from the above, a teacher for a visually disabled child is a

Parent

Guide

Healer

Counsellor

Playmate

Friend and

Teacher

That is why it is said "Soldiers win nations, but Teachers make nations".

Blind child is a child FIRST, his disability NEXT. Hence treat the blind child as you treat other children.

* Always touch the child by shaking his hand or tapping on his shoulder.
* Always address the child by his name.
* Give direction if at all to his body.
* A blind child may take time to acquire a skill/grasp an idea. Be patient, let the child learn at his pace.
* Be flexible in using aids.
* Make inexpensive aids. Use them WELL.
* Change them OFTEN.
* Many of the activities in early stimulation and school readiness are only basic hints. Use your imagination, be innovative, think and come out with NOVEL ideas and new activities to suit the needs of the child.
* Keep in regular touch with parents. Meet them periodically - not necessarily formal. Informal meetings are also of great help.
* Always talk to a blind child clearly.

Do your best and a little more, and you shall find yourselves at the gates of success. It is your duty to make the DISABLED child DESIRABLE to the society.

HEARING IMPAIRMENT

HEARING IMPAIRMENT

INTRODUCTION

Hearing Impairment is a hidden condition unlike other disabilities. It can go unnoticed if proper attention is not paid to the child's development, leading to a number of secondary effects. Hence an understanding of the nature of hearing impairment, availability of expert services and adequate preparation of the child and parents for schooling would ensure better success in the educational programmes. Preparing such children for schooling would involve not only providing them with necessary aids and appliances, but also enabling them to make utmost use of their residual abilities and draw optimum benefit from these aids and appliances.

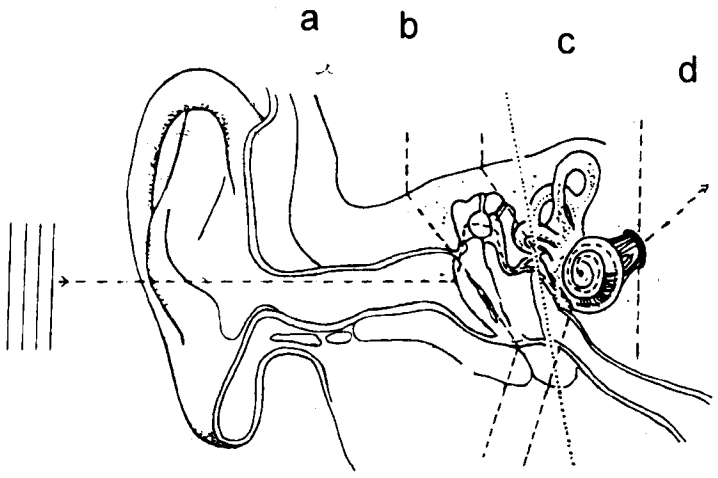
Children with congenital hearing impairment may demonstrate delay in speech and language acquisition, abnormal emotional behaviour, exhibit temper tantrum to call attention of others and develop tension and resistance owing to lack of comprehension. He is frequently found stubborn and has a tendency to get irritated when he cannot express himself clearly. A child or adult who acquires hearing loss after the acquisition of language and speech, suffers a great shock because he is cut off from the world of sound. He undergoes a feeling of loneliness and depression. He feels he is no longer competent in all other activities of life.

Before we understand the nature of hearing impairment and basic issues and rehabilitation, let us understand the process of normal hearing.

HOW DO WE HEAR:

The ear is a complex structure consisting of various parts. The first part which is visible to our eyes is called the pinna. There is a canal from the pinna leading into the head. This is the external ear canal. The pinna and the ear canal form the external ear. It ends at the delicate curtain like structure called ear drum or tympanic membrane. To the inner side of the ear drum, there is a chain formed by three tiny bones namely malleus, incus and stapes. All these structures are present in a small cavity called the middle ear. The stapes is attached to a small opening on the inner ear. The inner ear which is shaped like a coiled snail's shell contains fluid and delicate cells. Further the information is sent to the brain through the nerves.

a = External Ear
b = Middle Ear
c = Inner Ear
d = to Brain



various parts of the Hearing mechanism.

When the sound waves in the surrounding environments enter the outer part of the ear, they get transmitted into the ear canal. As the waves reach the end of this canal, they hit against the ear drum. The ear drum vibrates accordingly and conducts the energy through the chain of small bones into the inner ear. When these bones vibrate into the opening of the inner ear

they induce waves in the fluid. Because of these waves, the small microscopic structures in the inner ear get displaced and generate minute currents that are picked up by the nerve and the information is sent to the brain for interpretation.

According to People with disabilities Act (1995), Hearing Impairment is defined as 'loss of sixty decibels or more in the better ear in conversational range of frequencies'.

CLASSIFICATION OF HEARING LOSS

There are different ways of classifying hearing loss. The following ways of classification can help the reader to get a broad idea about the classification of hearing loss.

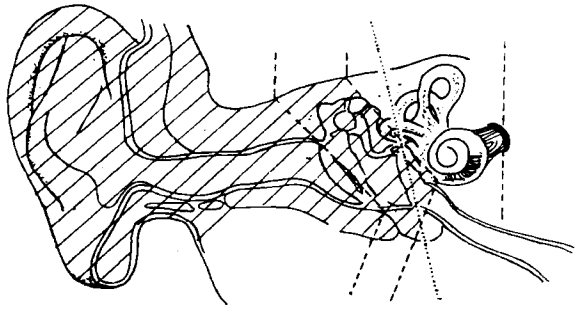
(a) Based on the age of onset:

(i) Congenital ie., hearing loss occurring from birth or prior to the acquisition of speech and language.

(ii) Acquired - hearing loss occurring after the acquisition of speech and language.

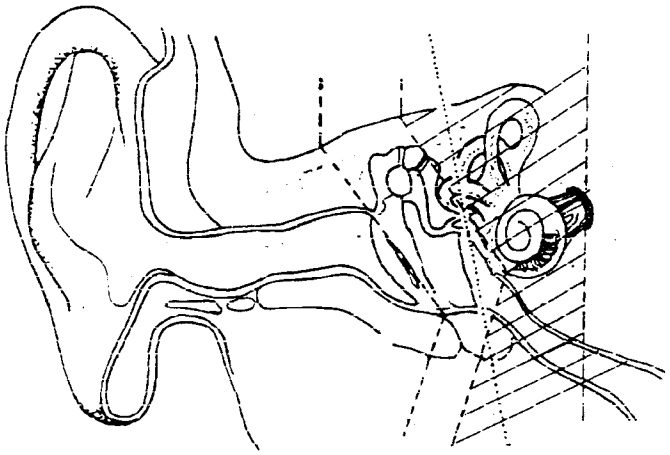
(b) Based on the type of hearing loss:

(i) conductive hearing loss - In this type the functioning of external ear and middle ear is affected.



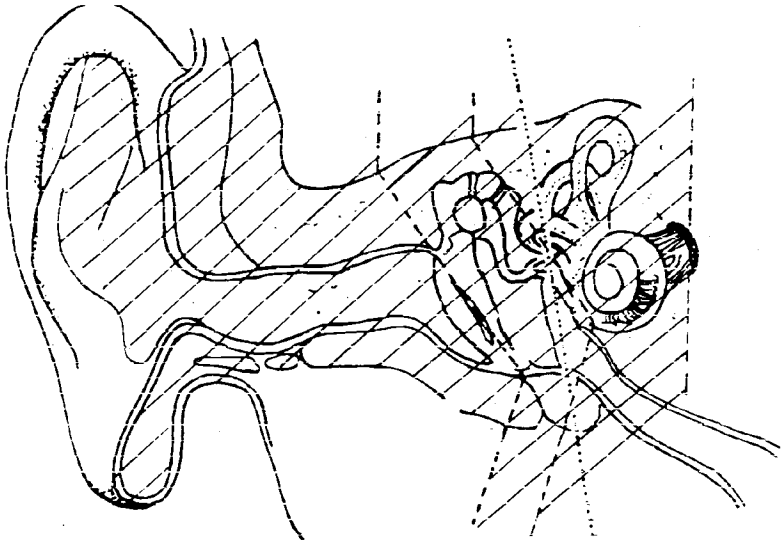
Parts affected in conductive hearing loss.

(ii) Sensori-neural hearing loss - In this type the functioning of the inner ear is affected.



Parts affected in Sensori neural hearing loss.

(iii) Mixed hearing loss - In this type the functioning of external or middle ear or both and the inner ear is affected.



Parts affected in mixed hearing loss.

(iv) Retrocochlear type - In this type the functioning of nerve pathway beyond inner ear is affected.

(c) Based on the degree of hearing loss; the following classification is made*

(i) Normal hearing	-	10-15 dBHL,
(ii) Minimal	-	16-25 dBHL,
(iii) Mild	-	26-40 dBHL,
(iv) Moderate	-	41-55 dBHL,
(v) Moderately severe	-	56-70 dBHL,
(vi) Severe	-	71 to 90 dBHL,
(vii) Profound	-	Greater than 91 dBHL.

NATURE OF HEARING LOSS

The difficulties faced by individuals with hearing impairment are varied and are heterogenous. They vary from individual to individual depending upon the type, degree and age of onset of hearing impairment and associated problem if any. Of all types of hearing impairments, individual with congenital profound hearing impairment are prone to become handicapped if proper guidance and help are not given at the appropriate age.

In general, hearing loss occurring at the time of birth or before the age of 3 years affects the speech production and perception abilities of individual ie., language development, social interaction and academic performance, thus affecting the overall development of the individual.

* Adapted from : Yantis P.A (1985) Pure tone air conduction testing in Katz.J (ed) Handbook of clinical Audiology Baltimore : William and Wilkins..

DEGREE OF HEARING LOSS		SPEECH AND LANGUAGE * CHARACTERISTICS
1. Normal hearing	-10 - 15 dBHL	No related speech and language deviation.
2. Minimal	-16 - 25 dBHL	No related speech deviation. Language development may be slower.
3. Mild	-26 - 40 dBHL	Some articulation defects noted. Speech and language development is slow.
4. Moderate	-41 - 55 dBHL	Defects of articulation and voice. limited vocabulary.
5. Moderately severe	-56 -70 dBHL	Articulation, voice affected. Sentence formation affected. Requires speech therapy.
6. Severe	-71 - 90 dBHL	Speech rhythm, voice, articulation affected. Requires careful and extensive training and supplements to auditory channel.
7. Profound	- > 91 dBHL	All aspects of speech and language are affected. Requires speech therapy and use of other sensory channels for communication.

* Adapted from : Calvert D.R. Silverman S.R. (1975) Speech and Deafness, Washington D.C. Alexander G Bell Assn. for the deaf.

CAUSES OF HEARING LOSS

Some of the common conditions leading to hearing loss are given below:

(A) Conductive deafness

(1) Congenital (from birth): abnormalities of the outer and middle ear.

(2) Acquired: infections of the ear (different types of otitis externa and media) especially occurring during the first three years of life which is a critical period for speech and language development.

(3) Foreign bodies and wax: children may keep small objects such as stones, beans, pieces of chalk, etc. in the ears and/or presence of wax may give rise to some degree of hearing loss.

(B) Sensori-neural deafness

A number of factors before, during and after birth can lead to this type of deafness. Some of the conditions are given below:

(1) Pre-natal or congenital:

* Hereditary : Deafness may occur due to genetic abnormalities and can be transmitted by consanguinous marriages. The hearing loss is generally transmitted from one generation to another ie., from grand-parents to grand-children, via parents.

* Maternal infection: such as rubella, measles, mumps and influenza especially during the first three months of pregnancy.

* Intake of strong drugs such as streptomycin, quinine, thalli chloride during pregnancy and drugs taken for abortions.

* Severe maternal malnutrition.

* Rh incompatibility.

* Lack of iodine in mother's diet.

Peri-natal (during or immediately after birth):

* Hypoxia - difficult and prolonged labour leading to reduced oxygen supply to the baby's brain.

* Pre maturity - chidren born before nine months of pregnancy and/ or less than 1800 gms. of weight at birth.

* Infections such as mumps, measles, meningitis and jaundice or conditions requiring changing of blood immediately after birth.

* Recurrent middle ear infection and ear discharge of chronic nature may sometimes lead to sensori-neural deafness.

* Injuries to the head, especially during accidents can lead to fracture of skull bones and damage the inner ear or middle ear leading to hearing loss.

* Use of drugs toxic to hearing mechanism such as streptomycin, quinine, or aminoglycocides.

* conditions associated with other syndromes such as Wardenberg syndrome, Treacher Collins syndromes.

IDENTIFICATION OF HEARING LOSS

Identification of hearing loss in children, especially early identification is a challenging task. It is very difficult to identify hearing loss at early years as children cannot tell us that they are not hearing well. Hence it is a silent and hidden disability unlike other physical disabilities. Hearing loss of severe - profound degree, if undetected at an early stage of life, leads to drastic

consequences. Apart from the delay in speech and language development, it also effects the psycho-social development, education and family relationships. Therefore, parents should carefully watch out for signs and symptoms that indicate if the child hears or not.

Checklist for early symptoms

1. 0 - 3 months
   - Child does not startle in response within 3 feet distance to sounds such as dropping of vessels, door banging, etc.
2. 3 - 6 months
   - Child does not look out for the source of sound (location)
   - Does not respond by cooing to the elder's speech.
3. 6 mths - 1 year
   - Does not respond when called by name.
   - Does not understand simple phrases such as no-no or bye - bye.
4. 1 - 1 1/2 years
   - Child cannot point to objects when named
   - Cannot follow simple sounds / words.
   - Does not respond to name unless he sees the speaker.
   - Shows no interest to sound.
5. 1 1/2 - 2 yrs.
   - Does not follow simple commands.
   - No noticeable increase in vocabulary.
   - Child uses gestures instead of speaking.
   - Does not enjoy listening to stories.

6. 2 - 5 yrs.
- Child cannot locate source of sound
- Cannot carry on a simple conversation.
- Child's speech is difficult to understand.

7. Child in School
- Has trouble paying attention.
- Does not respond/answer when called.
- Gives wrong irrevalent answers to question.
- Does not do well in studies.
- Has poor speech, substitutes sound/omits sounds or has abnormal voice quality.
- suffers from frequent cold, and/or earaches.

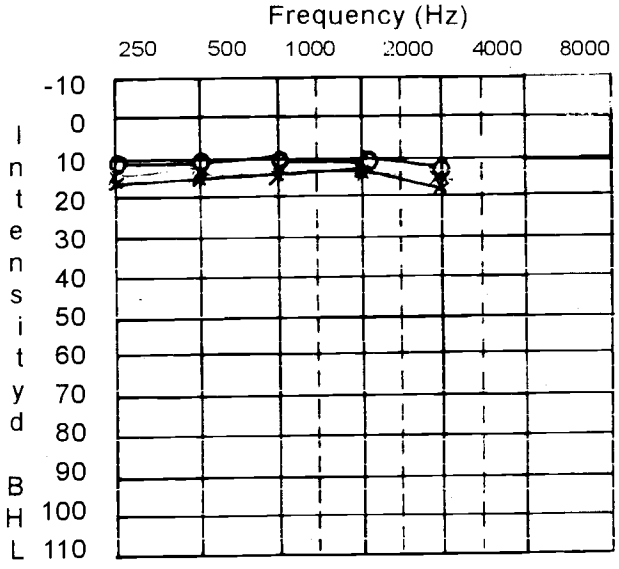
Parents should observe for any of the above symptoms and if they suspect hearing loss, they should immediately approach an audiologist and speech pathologist, who will assess the degree and type of hearing loss, select an appropriate amplification device and plan further for rehabilitation of the child.

REHABILITATION PROCESS

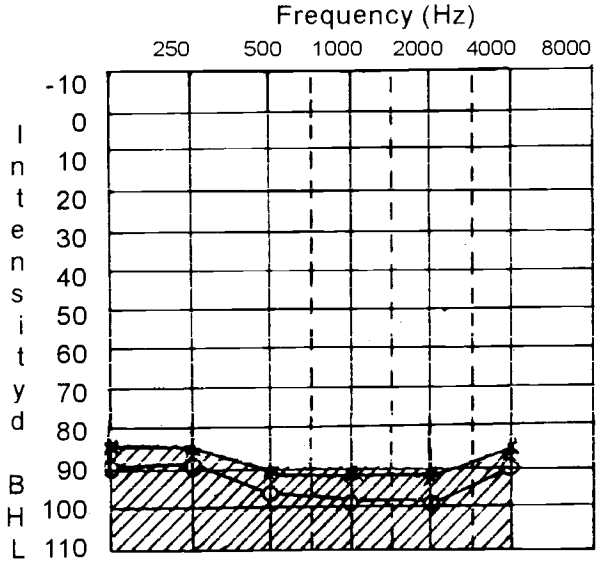
Rehabilitation of the hearing impaired person is a multi disciplinary task. It involves specialists concerned with early identification, diagnosis, intervention, education, vocational guidance, parents, and the community as a whole. The main goals of rehabilitation of the disabled persons are to make them adapt and live as normally as possible despite their limitations and be productive as any other member in the society. The outcome of rehabilitation depends upon the preparation which a child undergoes in the early years, learning to communicate and understand himself as well

as others. The psycho-social and economic development of the individuals depend heavily on the environmental and academic inputs received by the individual. Hence the child has to be prepared for the school with readiness skills.

The rehabilitation process starts right from the day of identification. A comprehensive evaluation helps in the selection of appropriate amplification system. In general, most parents are of the opinion/belief that the child would talk soon after fitting with a hearing aid. However, this is not so. The child has to be prepared to use his/her residual hearing effectively to listen and learn to communicate. Figure below shows a normal audiogram the audiogram of a profound hearing loss. It should be understood that a child with profound hearing loss has very limited hearing available to listen to various sounds through hearing aid (shaded area of the figure shows the residual hearing available).



Audiogram showing normal hearing sensitivity



Audiogram of profound hearing loss.

The parents should understand the importance of suitable amplification and training residual hearing in order to train to produce speech. However, it is a fact that children find it difficult to depend on hearing alone to learn

to speak. Hence some children may have to rely on other modalities such as vision and tactile sense. Therefore the child should be trained to lip read and understand what is spoken to him.

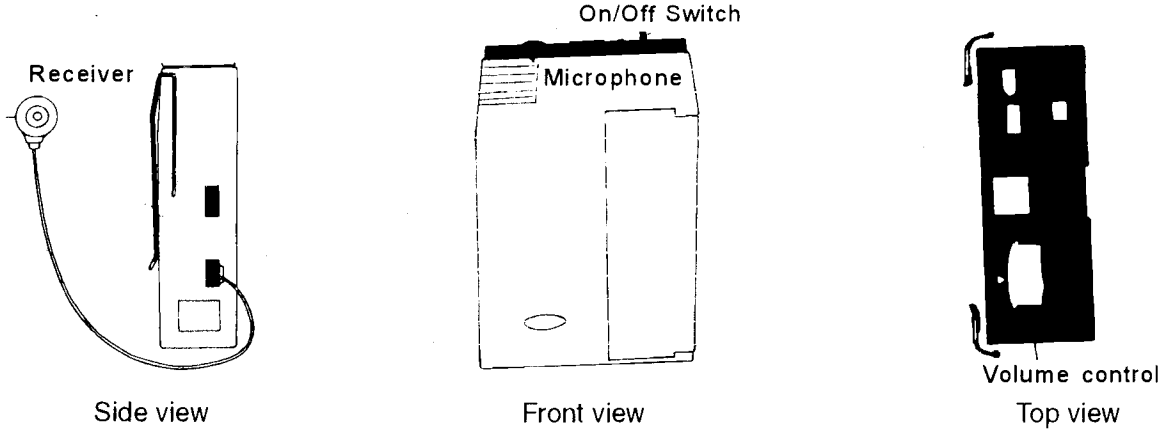
AIDS AND APPLIANCES FOR CHILDREN WITH HEARING IMPAIRMENT

Hearing Aid

A hearing aid is an electronic instrument which makes sounds louder. It is a sound amplifier similar to a public address system. It consists of a microphone, an amplifier, an ear phone or receiver with loudness control mechanism.

There are different types of hearing aids such as the pocket model, behind the ear model, spectacle type and all-in-the-canal type. Given below is the description of the functioning of a body level pocket type of hearing aid.

To explain briefly, microphone picks up sound energy and converts it into electric energy, which is fed to an amplifier. The amplifier increases the electrical energy to the required extent and sends it to the earphone through cords. The amplified energy can be increased or decreased with the help of a volume control switch. The earphone converts the amplified electrical energy into sound energy.



Pocket model hearing aid and its parts.

Care and Maintenance of Hearing Aid: Tips for parents and teachers

a. A hearing aid is not a substitute for the ear. It only makes the sound loud enough to help the child to listen and discriminate at higher intensity level.

b. The child has to wear the hearing aid always in order to get maximum benefit.

c. The child has to learn to understand what he learnt through the aid which requires a lot of practice.

d. The battery and cord/wire of the hearing aid should be checked every day for optimum functioning.

e. They should be always kept clean and dry.

f. Remove the cell when the aid is not in use.

g. Keep the hearing aid away from fire or any electro-magnetic appliances like television, radio, etc.

h. Avoid exposing the hearing aid to heat, rain, water and dust.

i. Keep it out of reach of pets.

j. Do not drop the hearing aid as it may be broken or damaged.

k. Do not twist or knot the cords.

l. It is always preferable to use the hearing aid with ear moulds.

m. Keep the ear moulds always clean by regularly removing dirt and wax that stick to the earmoulds.

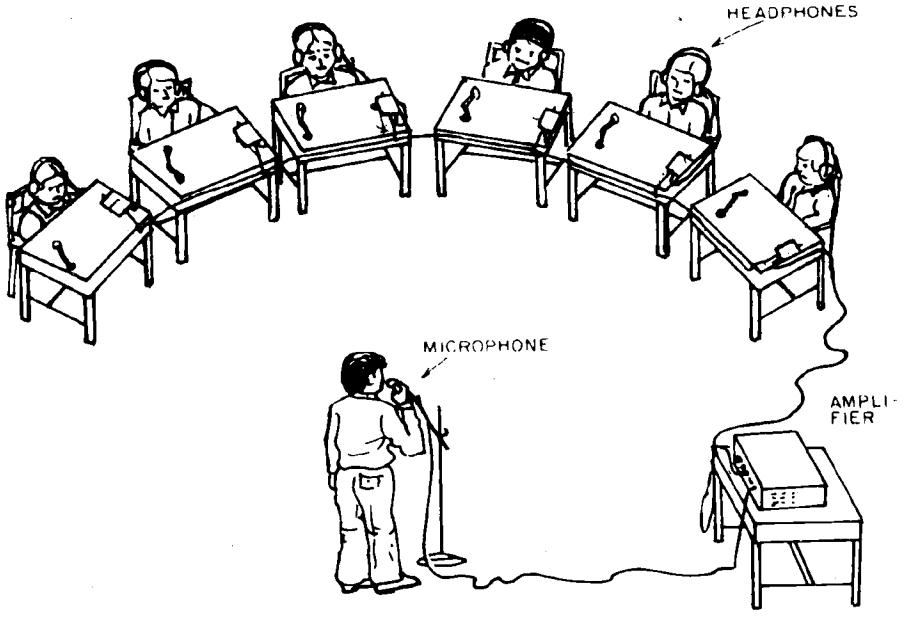
Apart from using the individual hearing aids, a class room set up has a group amplification system.

The commonly used group amplification systems in India are

1. Hard Wire System.

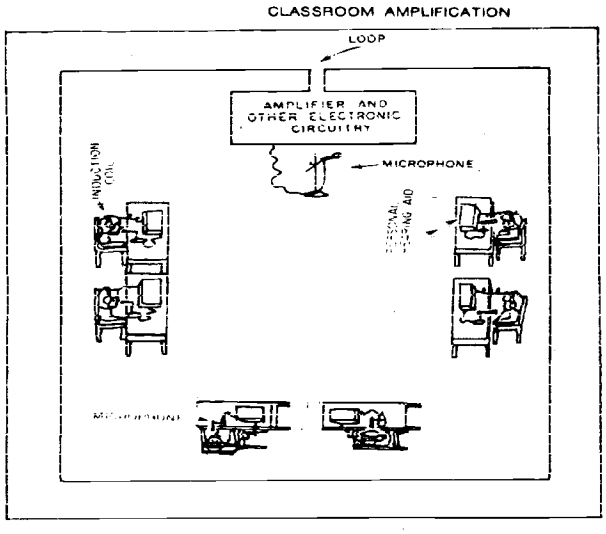
2. Loop induction amplification system.

A hard wire system consists of a master microphone, an amplifier and a number of earphones. Present day group hearing aids provide the opportunity for deaf children to listen to their teacher's voice as well as other children's voice with the help of student microphones provided separately for each student or one microphone for 2 students. These hearing aids help in achieving good signal to noise ratio even at higher intensities and make speech clearer than individual hearing aids.



Group hearing aid - Hardwire system

A loop induction amplification system on the other hand, utilises individual hearing aids of the children. It also has a microphone, an amplifier and a coil of wire placed around the room either on the walls or on the floor covered by a carpet. Infra-red and wireless frequency modulated group hearing aid systems are also available but commonly used abroad.



Group hearing aid - Loop induction

Earmoulds

Earmould is an integral part of the hearing aid system. It should be preferably custom made, i.e., size taken for each individual's ears. The full benefits of the hearing aid can be derived only when the earmoulds are fitted properly. In small children, earmoulds may have to be changed every six months till the age of nine years because the ear grows and the mould becomes loose. There are different types of earmoulds, such as 1) Custom 2) Standard 3) Skeleton and 4) shell type.

I. Auditory Training:

Children with severe-profound hearing loss have difficulty in hearing different sounds. They should be helped to listen carefully and learn the differences between various sounds. There are different methods of auditory training. Audiologist/speech pathologist or a trained teacher for the deaf can help in selecting the appropriate method for a child. The process of teaching the hearing impaired children to learn to differentiate between various sounds is known as auditory training. Before auditory

CASE STUDY: 3

A girl named K is one with hearing impairment who has benefited from the pre-school training. The child reported at AYJNIHH, SRC at the age of <3 years. She was evaluated for hearing loss and was diagnosed as having Bilateral profound sensori-neural hearing loss. Her parents were highly depressed on hearing the news that their child was hearing impaired. The parents were counselled by a team of Audiologist-Speech Pathologist, Educator of the deaf and Vocational Counsellor regarding the benefits of pre-school training in the early years and overall rehabilitation of the hearing impaired. It was evident to the team that the parents could see a ray of hope in their child's future after the counselling session. They agreed to admit their daughter in the pre-school programme which lasted for a period of two years. During the programme they were provided information regarding the nature of disability the possible effects and the outcomes. The parents were encouraged to participate throughout the training programme in facilitating the development of their child's speech and language, auditory and speech reading skills, which they readily implemented at home.

During the two years first fitment of hearing aid and ear-mould is made and was acclamatised involving peers. The parents were guided on care and maintenance of hearing aid. They were also explained the process of rehabilitation in different stages of child's relife.

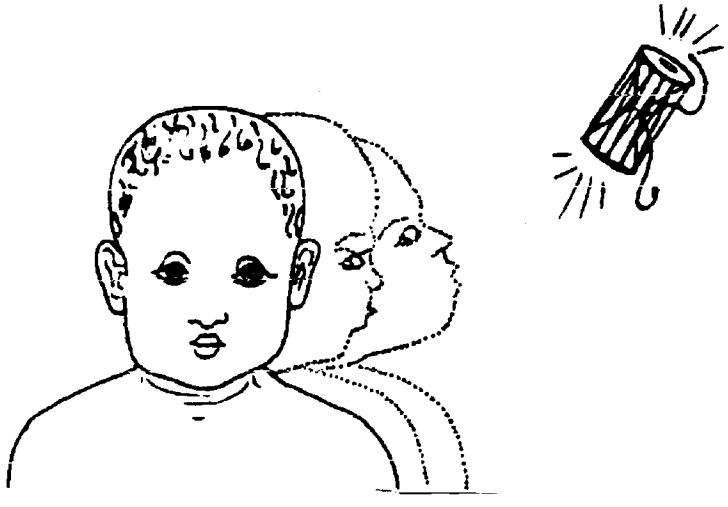
The pre-school teacher gave the input of speech and language and inculcated discipline. She familiarised the child with formal rules and regulations of the school to prepare her for the joining (normal) school for integration. Periodic evaluation and monitoring was done by the team and prepared not only her but the family to take new challenges.

After the completion of two year preparation, the child is now successfully integrated into a normal school in Class I and is able to derive maximum benefit from the hearing aid, speaks in sentences and comprehends most of what is spoken to her. She occasionally requires professional help in maintaining hearing aids and coping with a few subjects in the school. She actively participates in various cultural programmes, and dances and won prizes as well. At present the child is in Class IV.

* * * *

training is initiated the important aspect to be considered is acceptance of "hearing impairment" of the child by his parents as well as acceptance of the hearing aid by the parents and the child himself/herself. The child has to use a hearing aid atleast for a period of minimum 6 to 8 hours a day. Parents play a key role in achieving this goal. A general frame work of auditory training may be suggested as given below.

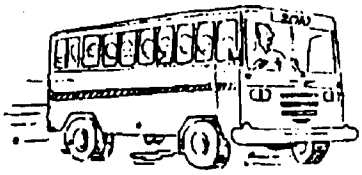
1. To develop **awareness** of different sounds including speech and non-speech.
2. To develop **discrimination** of different sounds - speech and non-speech.
3. To develop **recognition** of different sounds - speech and non-speech.
4. To develop **comprehension** of different sounds - speech and non-speech.

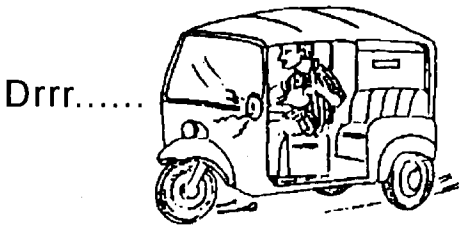


Locating source of sound

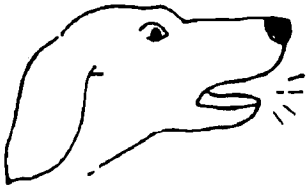
In the first level, the child is made **aware** of different sounds including speech sounds, and environmental sounds such as car horn, animal cries, calling bell etc., The child should be sensitised to different sound in his environment and learn to appreciate them by hearing through his hearing aid. As the child shows signs of awareness, the next level can be initiated. This is not very easy to achieve and it requires considerable period of time and patience on the part of parents and teachers.

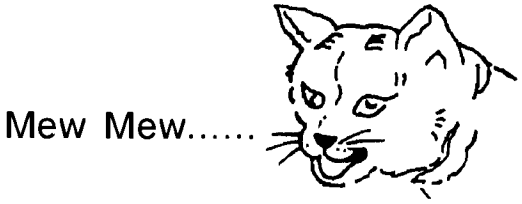
In the **discrimination** level, the child is required to differentiate whether one sound pattern is the same or different from the other. This discrimination skill is very important for speech development. Training procedures to develop this skill can easily be included in programmed instruction for young children.





Once the child discriminates different sound stimuli, he has to **recognise** them and identify what is heard. This can be trained by making the child to point to a toy or look at an object that is named. At higher levels the child may be trained to place a mark on the paper or write the name of source of sound.





(Discrimination stage)

The stage of **comprehension** is the most complex of the tasks. At this level, the child is required to indicate that he understands what he has heard, by making a suitable oral response or by following a command.

For Eg:Answering 'what is your name'?

How old are you?
Get me a glass of water .....

The goal of auditory training programme is to develop the auditory perception for conversational speech to the maximum possible extent. For those children with minimal residual hearing who are unable to learn at higher level i.e., identification and comprehension, they should at least master two basic skills i.e., awareness of sound and discrimination.

Conversation among students
(Comprehension Stage)

An example of Auditory Training Activity:

Goal:- To develop awareness of sound.

Material:

Flute, drum, rattle, bells, etc., environment sounds such as dog barking, calling bell, crow, speech sounds such as Pa, Ka, Ba or words such as papa, baba, kaka, dada, mama. Some marbles, blocks, small match boxes,.....

Method:

1. Place the child in a quiet room.
2. Provide familiar objects such as marbles and boxes to him.
3. The teacher sits opposite to the child and presents a sound. She helps the child to pick up an object provided and place them in a basket when ever there is a sound.

4. The child should learn to indicate the presence of sound by placing the objects in the basket.
5. Repeat this for a number of times.
6. Now repeat the same activity by presenting the sound from behind the child, so that he has to listen to the sound rather than looking at the movements.
7. Prompt the child to depend on hearing alone to identify whether there is a sound or not.
8. Adequate repetition would ensure whether a child has learnt or not.

Reinforcement at regular intervals would sustain motivation in the child.

Do this activity for a brief period of time so that children do not get bored. For making the activity interesting, teacher should use a variety of games and toys. However, the main goal of auditory training should be to integrate different activities of the class room.

Lip Reading

Lip reading is the recognition of a speaker's speech by watching his lips, facial expression, gestures, as well as contextual clues. Children will have to depend upon lip reading apart from hearing to understand what people are saying. This is not easy. Every child has to be trained to observe the lip movements and facial expression to identify what is being said.

(a) Lip closed

(b) Lip rounded

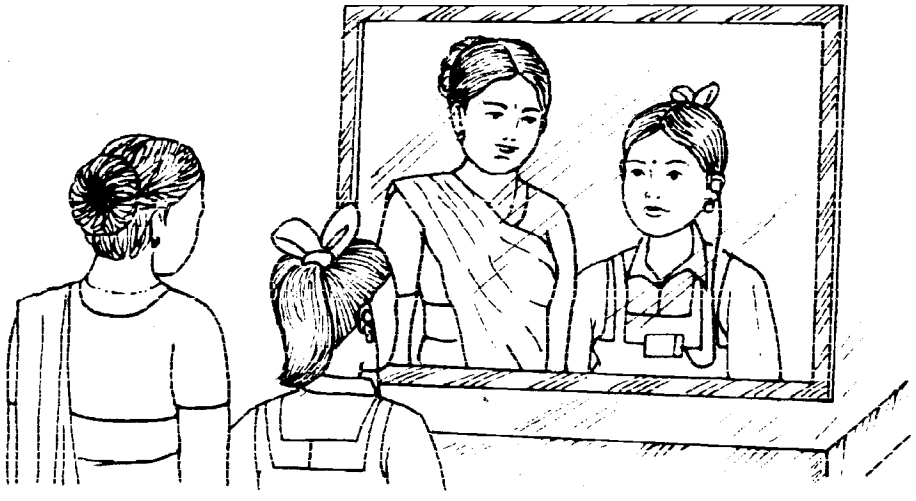
(c) Lip open

A step by step procedure for teaching lip reading to the child with hearing impairment is as follows:

1. Sit in front of the child with good lighting in the room. While showing an object - eg : a ball, utter the word 'ball'. Let the child see your lip movement and watch your face. Repeat this for a number of times.

2. Give opportunities to the child to imitate you.

3. You may also use a mirror for such purposes. Both, the teacher and child may sit in front of a mirror, so that both are visible to each other. Now the teacher provides the model by saying a word. The child would observe the movements in the mirror and try to make similar movements.



Use of mirror for lip reading

4. In this way, the child may be taught to identify different speech sounds, words and phrases such as sa, la, ta, papa, dada, come here, take this and such other sounds and words.

5. Some sounds in our language appear similar on the lips such as - pa, ba, ma, or ta, da, na, or ka, ga, nga. The child can be helped to recognise them by touching the parts of the throat and neck region while identifying as well as while producing the sound.

This will help the child to understand the differences between various sounds.

Encourage the child to produce sounds by providing tactile feed back

Speech and Language Stimulation:

Children with hearing impairment have difficulty in communicating their ideas, feelings and desires. They do not have words and sentences to express themselves. In order to help them learn to speak, auditory training and lip reading abilities become very important prerequisites. Alongwith these, there should be a good model for providing speech and language stimulation. While speaking to a deaf child one should take care of the following aspects:

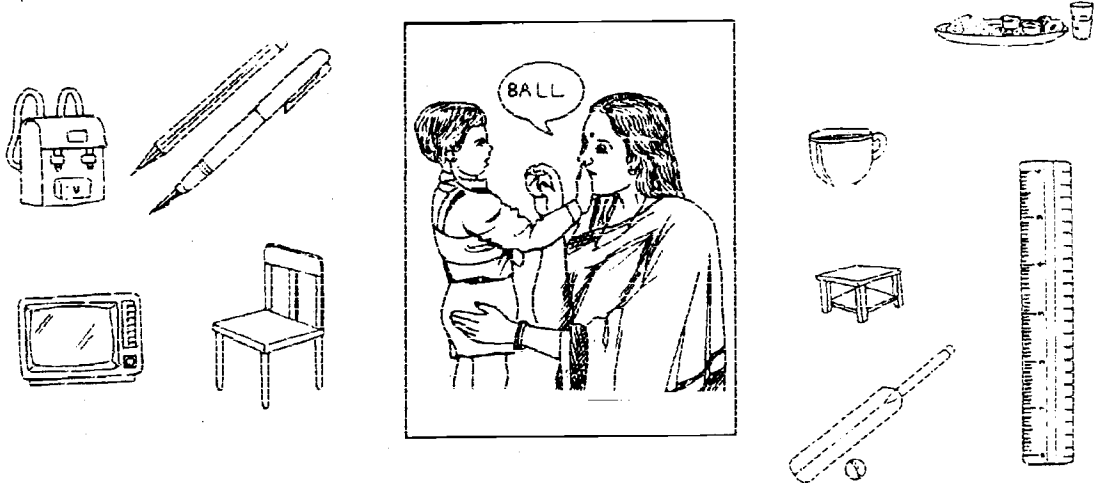
* Always gain the attention of the child towards your face.
* Talk in simple words/phrases and sentences.
* Speak clearly without food, paan or cigarette in your mouth.
* Do not shout.
* Initially talk only about those objects or events which are visible in front of you.
* Let there be adequate light on your face.
* Do not exaggerate lip movements as you speak

* Always use only one language (preferably mother tongue).
* Always give a running commentary of your routine activities such as cleaning, cooking, washing, and preparing to sleep, and let the child watch and listen.
* Encourage the child to produce different sounds such as pa, ba, ta, cha, ka, etc.,
* Games and exercises may be prepared to produce sounds, such as, mm..... or making a circle like 'O' with lips and stretch the mouth and say e e e.....
* Make the child feel the vibration on the throat along with the movements of the lips and tongue, by placing his hand on your neck as you say a a a..... or words.
* As the child identifies words which are spoken and starts using them meaningfully, encourage him to form simple sentences with those words.

Some sample activities to develop comprehension and expression.

Sample A: To increase comprehension of names of commonly used objects in school.

Objects: Pencil, book, slate, table, ball, etc.



Activities:

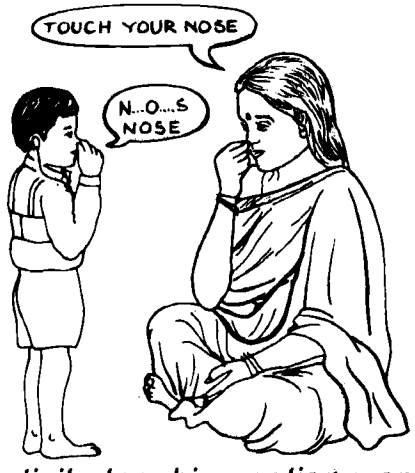
All the activities used in pre-school for a hearing child can be included for the hearing impaired child also.

1. The teachers would present the common objects to the child such as pencils, books, slates, etc.
2. All the objects would be put inside a box.
3. The teacher would help the children to pick up an object and keep it aside when the name is called out.
4. Similarly, all the objects would be classified while naming them, thus, the name is associated with the object.
5. The name of the objects and their identification can also be taught to the child through hiding and searching for them.
6. Pass along the parcel: The teacher makes a parcel and while it is being passed along, she claps. When the calps stop, the parcel cover/wrapper is to be opened, and the named objects should be identified. the child would be helped if they fail to do the activity.
7. the child should get an exposure to a variety of situations by using different objects and their names. The teacher may create a variety of situations to use the objects and their names so as to develop the comprehension of these objects.
8. Matching activities may also be included, such as object to object, object to picture, picture to picture, picture to word, word to word depending on the child's performance. This matching should also be done through simple matching to complex ones.

Sample activities to develop comprehension of action words/verbs.

Words: Such as drinking, writing, combing, touching, throwing.

Activities: The teacher may select pictures showing the above mentioned action words/do the action and match identical pictures/let the child imitate action such as drinking, writing, combing, throwing. Let the children watch and repeat.



Activity teaching action words

The teacher would demonstrate these actions to the child and make them do each action as she names the action.

Activities to develop understanding of various concepts like size, shape, duration and quantity or big and small, long and short or more and less, etc.

Materials: Flash cards, real objects such as shirt, plate, glass, pencils, etc. in big and small sizes.

Activities: The teacher places a pack of flash cards containing pictures of big and small objects. Then each card is picked up and the concept is introduced to the child such as "this is a **big** pencil", or "this is a **small** pencil", stressing the word big or small. Then the flash cards are shuffled and each child has to categorise the cards as either big or small.

CASE STUDY : 4

A boy named M hails from the middle class family of Kurnool District, Andhra Pradesh. He reported for testing at the age of 2 1/2 years and was diagnosed as Bilateral profound sensori-neural hearing loss. Knowing that their child is deaf and that no professional help is available in their district the parents were literally upset and confused. They were counselled and provided encouragement to work with their child.

The child was fitted with a bilateral amplification and enrolled in the pre-school training at AYJNIHH, SRC. In order to attend the programme without a break, the parents infact shifted their residence to Secunderabad. The parents were very hardworking and motivated. They followed all the guidelines given by the team of professionals such as audiologist/speech pathologist/educator of deaf and vocational counsellor and were able to help their child to hear through the hearing aid to speak in sentences and understand what others speak. The child was admitted in normal school. The integrated school (normal school) teachers are also prepared and given guidelines/instructions to help the new hearing impaired child in the classroom who has special needs alongwith the general needs. Now he is in Class II. While he was in I class he has participated in many intra-school and inter-school cultural programmes and won prizes in the normal school. It is not out of context to mention that he poses a tough competition to his classmates in the school and stands II in his class of 30 students.

There are many more students who have attended the pre-school training and are well integrated into normal school. Atleast about 45 students out of a total 65 students who attended the pre-school training are now placed in different normal schools and are performing on par with their hearing peers.

* * * *

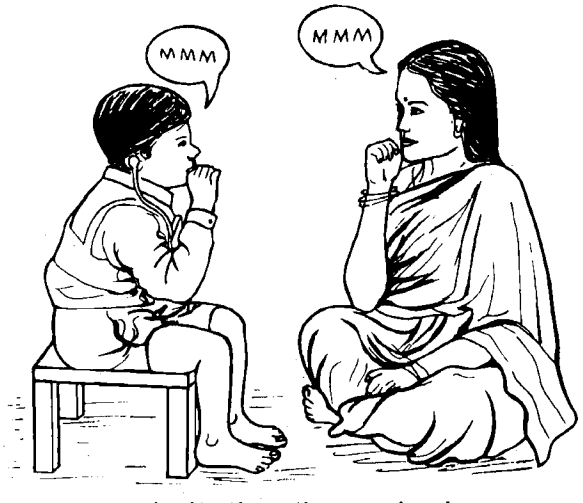
2. The teacher calls the child to pick up a big object, say a big pencil, and the child has to pick up the object. Again the teacher says to pick up the small pencil and the child is encouraged to pick up the same as asked.
3. The child may be given a chance to look at the lips and facial movements to identify the key words such as big, small and so on.

   Activities may be developed using other objects such as long rope/ short rope, fat book and thin book, etc.

   The activities are repeated for adequate experience. Provide variety to sustain interest.

   Activities to help the child to **understand simple phrases** such as 'get the book'/ 'close the door'. Once the child understands names of objects and actions, form simple phrases, such as 'close the door', 'get the book', 'Raju's pencil', the teacher would start combining the words to form phrases in a variety of situations. The child should be helped to lip read when phrases are spoken along with the real activity/presentation of flash cards.

   Activities to help better expression: (To encourage the child to produce voice).



imitating 'humming'

Goals: To elicit spontaneous vocalisation from the child.

Materials: Puppets, toys, paper toys, face masks.

Activities: Teachers may plan activities to elicit vocalisation.

Toys of animals such as cat, dog or vehicles such as car, scooter or bus are taken alongwith their flash cards.

The teacher produces the sounds of animals or vehicles, and encourages the child to imitate them.

Whenever the child is shown the flash card, the child is encouraged to produce that sound involving the active participation of all children in the classroom.

Goal: to encourage the child to produce different sound combinations such as Pa, Ba, Tha, Ka, Sa, etc.

Speech is a series or combination of various sounds to indicate our ideas. It requires the ability to produce different sounds easily. Children with hearing impairment should be encouraged to produce sounds and combine them in their speech.

To achieve this, the teacher would use the puppets, hand drawings, or mirror to show real movement and structures in the mouth.

Activities:

1. The teacher takes a puppet and starts producing different sounds focussing on the movements of the mouth. The children are also encouraged to do the same.

2. The children are shown real movements of the lips, tongue and mouth in the mirror as the teacher says different sounds such as pa, ka, ta, etc.

3. The children are made to feel the vibration on the throat as the teacher produces these sounds.

4. Line drawings of mouth and face may be used to show how different sounds are produced.

5. The teacher has to focus on each sound category at a time such as pa, ba, ma - all involve movement of lips.

Ta, da, na - all involve movement of tongue tip.

Ka, ga, nga - all involve the back of the tongue.

Wherever possible, the mirror should be used for showing various positions of tongue tip which is not visible. Otherwise, once the child is able to produce the sounds individually, he can be taught to produce in words either beginning with that sound or ending with that sound or the target sound occurring in the middle of the word such as : 'P' sound and 'K' sound as shown below.

Pig Puppy Cup (or suitable words in mother tongue)

Kite Anchor Chick

Try to select those words which are commonly used in day to day life and also for which pictures are available.

The child may thus be encouraged to use more words to express his ideas and feelings. The errors in clear speech may be corrected by a careful programming with the help of a speech pathologist.

Eg. When the child says "ball".....

Adult says "yes, this is a **ball**".

or

"This is a big **ball**".

or

"The **ball** is under the table"

* Constant practice and proper guidance can develop good voice, appropriate pronunciation and good language in a deaf child.
* He should also be helped to monitor his own speech by listening.

List of home and school activities that can be used for language stimulation.

HOME ACTIVITIES *

1. Dressing for the day.
2. Dressing for going out.
3. Doing Laundry
4. Cleaning vessels.
5. Washing clothes.
6. Preparing for a bath.
7. Preparing meals.
8. Play time.
9. Preparing to sleep.
10. Serving meals.
11. Having a meal.

SCHOOL ACTIVITIES

1. Attendance.
2. Free play.
3. Block building/Indoor activities
4. Recess time.
5. Story telling.
6. Songs.
7. Play ground activities.
8. Arts and Crafts.
9. Greeting
10. Pre-academics

* As the adult performs the activities, involve the child wherever possible, maintaining conversation throughout.

Alternative Sensory Aids

A majority of children with permanent sensori-neural hearing loss will benefit from personal and group amplification system used in schools. However, there are some children for whom such devices do not provide any benefit. Depending on the type and degree of hearing loss in the child, an alternative type of sensory device may be prescribed.

Some such types of devices are listed below :

a) **Cochlear Implant :-** It is an electrode or group of electrodes placed in the inner ear and attached to an induction coil. It provides limited hearing to those who cannot benefit from conventional hearing aids.

b) **Vibro tactile system : -** It may be used with children who cannot derive any benefit from the traditional hearing aids. A vibrator is employed in the place of the ear phone. It helps in creating awareness to the individual whenever there is a sound (not very commonly available in India).

Assistive listening devices:-

There are other devices which will help the hearing impaired children or adults to function more effectively. Some of them are listed below:

1. Alerting devices: Such as door-bell, telephone amplifier and baby crying indicator devices. A light flashes in a sequence on a board near the deaf individual, indicating that either the door bell or telephone is ringing or child crying.

2. Direct audio input to Television, radio or audio cassettes: There is a hard wire connection from the output of the electronic device to input of

the amplification system enabling the hearing impaired user to listen without the interference of external sounds.

3. Telephone amplifier amplifies the speech from the receiver.

4. Technology has also enabled us to view pictures and text from conventional telephone to graphic mode, automatic speech recognition system and captioning on videos.

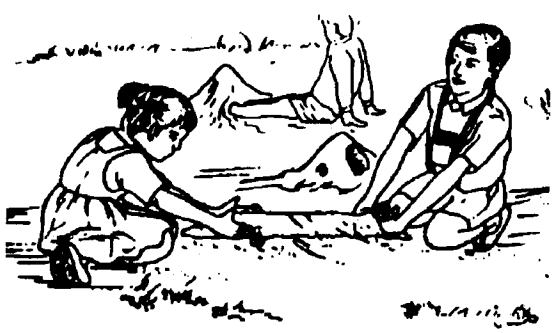
5. Vibrograms are used to wake a hearing impaired person at a particular time. There is a vibrating piece kept underneath the pillow which vibrates to awaken a hearing impaired individual.

Some tips for the parents of hearing impaired children

- Give him/her the same love and affection as you would give to a child with hearing.

- Provide the child with a suitable hearing aid as early as possible and help him/her to make effective use of it.

- Give him the necessary experiences and opportunity to learn language to hear, lip read and speak.



- Do keep in constant touch with a special teacher or audiologist and speech pathologist for regular guidance and advice.

- Encourage any special abilities that you observe in your child.

Understand fully the needs of the hearing impaired child.

- Maintain partnership between home and school to train and educate the hearing impaired child.

- Make him/her an equal partner and provide opportunity in play and other household activities.

- Talk to the child as much as possible.

- Encourage the child to speak.

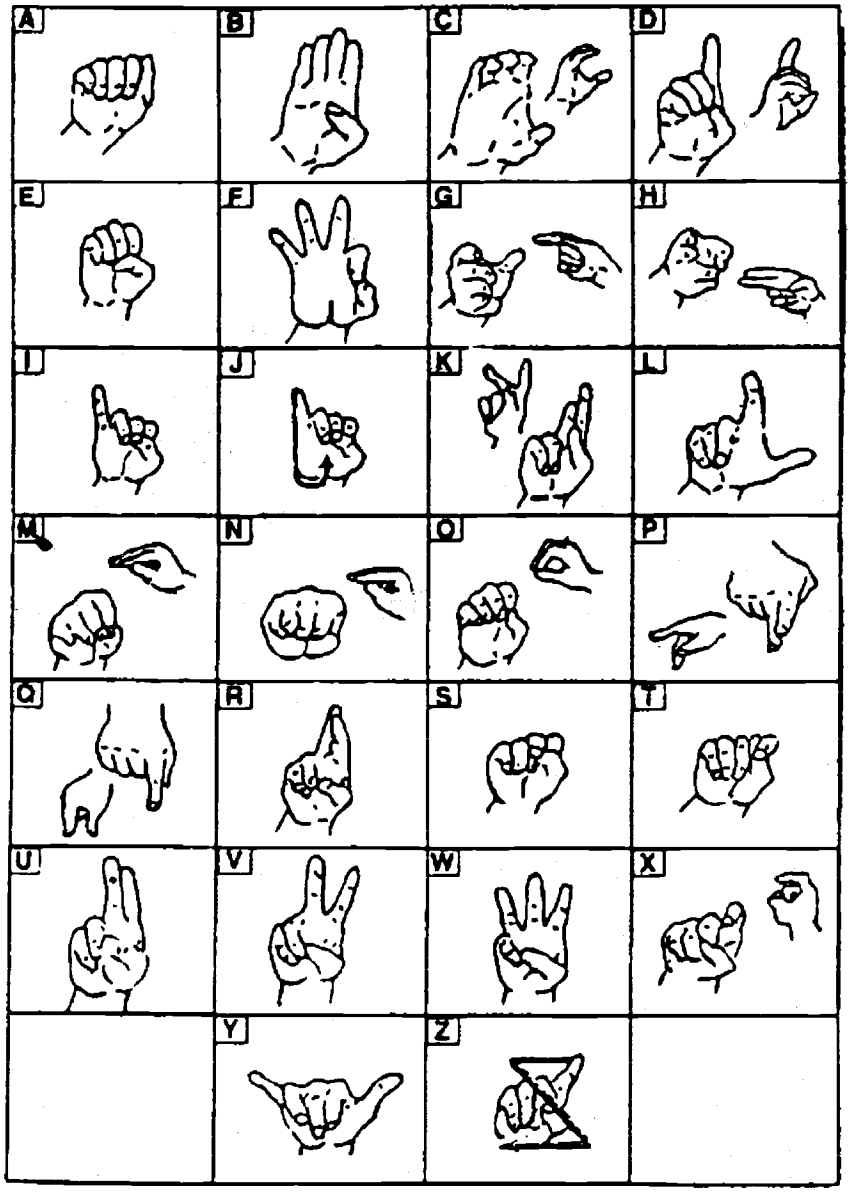
- They should also help in taking care and maintenance of their hearing aid and not make it a play thing.

- Let other children and members of the community understand the nature of the disability in the child.

TOTAL COMMUNICATION

The first priority in the total rehabilitation of deaf children is education. With such a priority in mind, we should do whatever is necessary to achieve this objective. Through the philosophy of total communication and the reasons it makes available to us, we have a better chance of reaching this goal. Total communication is an attempt to expand educational opportunities to deaf children.

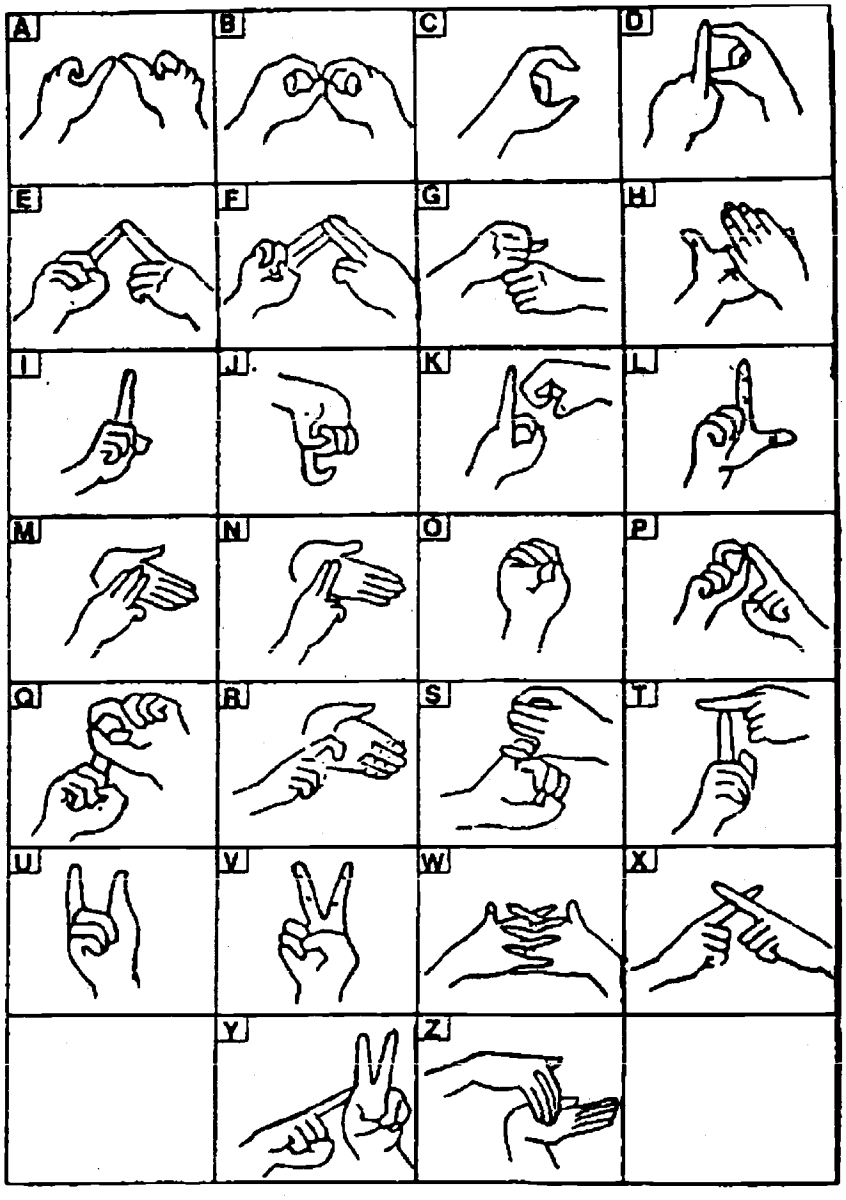
SIGN LANGUAGE AND FINGER SPELLING



Single hand alphabets

As seen earlier, children with hearing impairment differ from one another in many ways such as in degree and type of hearing loss, intelligence and

home-environment. These differences have their influences on the acquisition of communicative ability and further course of education. In order to meet the needs of different hearing impaired children, according to their individual needs and potentials, finger spelling and sign language can be used as a part of the communication method.



Double hand alphabets

Approaches incorporating manual elements:

This involves the use of hands in different ways as a substitute for verbal language and speech.

Finger Spelling:

This consists of one-handed or two-handed manual alphabets and conventional signs with a fixed position of fingers or hands for each letter of the alphabet, as shown in the illustrations.

Sign Language:

Sign language makes use of hands, face and arms to communicate words, feelings and ideas. It has certain advantages. Each sign has a different meaning and is made up of a certain set of movements, hand postions and hand shapes. Sign language is commonly used by the persons with hearing impairment because :

- it is learnt quickly and easily
- they feel at ease while communicating with one another.
- while in a group, it is easier to convey the speaker's message to the deaf in sign language, because speech reading can be difficult in such situations.

Total Communication recognizes "the right of a deaf child to learn to use all forms of communication available to him/her so as to develop language "competence". This includes child devised gestures, speech, formal signs, fingerspelling, speech reading, reading and writing. Every child should be provided with the opportunity to learn to use the remnant of residual hearing which he may have.

Thus total communication is a philosophy incorporating appropriate aural, manual and oral modes of communication in order to ensure effective communication with and among hearing impaired persons.

Present Situation in India

Attempts on introducing a standard sign language in India that all deaf people can use is now slowly evolving. Sign languages can vary in different regions, in the same way that there are different spoken languages. Of course, one has to remember that very few hearing people sign. A practical, sympathetic and informative approach which involves parents, teachers and close relatives of deaf children will go a long way in bringing about a change in attitudes and ofcourse will bring to the fore, a whole range of options. Educators and trainers need to be aware of and provide the user, the friendly methods according to individual communication needs.

LOCOMOTOR DISABILITIES

LOCOMOTOR DISABILITIES

INTRODUCTION

Locomotor disabilities are caused by orthopaedic and/or neurological impairments.

According to the Persons with Disabilities Act 1995, "locomotor disability" means disability of the bones, joints or muscles leading to substantial restriction of movement of the limbs or any form of cerebral palsy.

Orthopaedic disabilities include deformities in the body, birth defects, accidents leading to removal of limbs or deformed limbs or due to diseases or poliomyelitis which result in difficulty in the day-to-day functioning of the person. Usually, children so affected have normal intelligence and are capable of learning in schools like other children. The teacher should be aware of the specific problem in the movements of these children so that suitable seating arrangement in the class, mobility aids, writing aids and other assistive devices can be provided for them.

Cerebral palsy is one form of neurological impairment. Children with cerebral palsy may have mental retardation also. However, not all children with cerebral palsy (CP) are mentally retarded. Some have average or above average intelligence.

Cerebral Palsy is a disability affecting the child at a very early age.

The medical term for 'spastic' is Cerebral Palsy - CP - It is a group of disabling conditions that result from damage to the growing brain/to the Central Nervous System; 'Cerebral' refers to the Brain and 'Palsy' describes the lack of muscle control which is many times, not always, a symptom.

Incidence - A child with C.P. is born generally once in every 400 births without any distinction of sex, race, maternal age or social background. It can be severe or mild. Cerebral Palsy may have associated problems in vision, hearing, speech, mental ability and social adjustment.

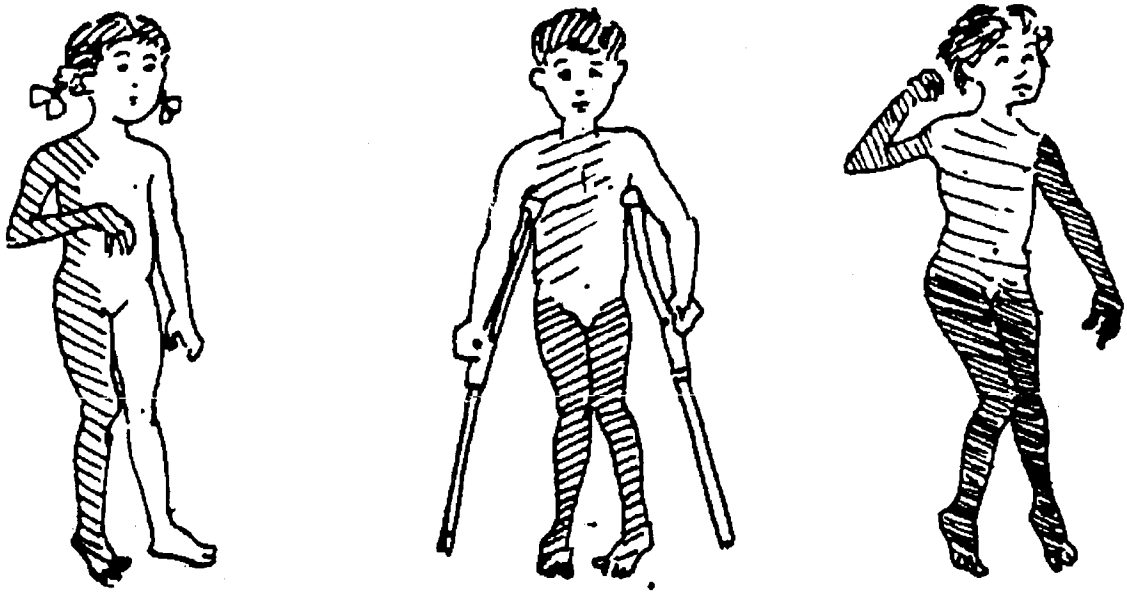
CP is not 1) usually hereditary, 2) contagious, 3) progressive or 4) primary cause of death.

It may be caused, **Before Birth** - due to causes such as rubella or other infectious disease, over-exposure to X-rays, R.H. Incompatibility. **During Birth** - due to causes such as prolonged labour; misuse of instruments; excess of anesthesia; lack of oxygen to brain; or excessive bleeding. **After Birth** - early in life due to head injuries; high fever, fits, child abuse, complications such as measles, leprosy, meningitis, or encephalitis.

Drugs and surgery cannot cure this condition. Early detection and treatment is vital as it will lead to reducing developmental handicap to the minimum and thus to better adjustment to life.

A child with cerebral palsy can be a **Spastic** - with tense contracted muscles, **Athetoid** with constant uncontrolled motion of head, limbs and eyes. **Rigid** with tight muscles that resist efforts to make them move, **Ataxic** with poor sense of balance causing stumbling and/or falls.

Depending on the involvement of the limbs, they are called as children with monoplegia, diplegia, quadriplegia or hemiplegia.



hemiplegia *Paraplegia* *quadriplegia*

(The shaded area in the figures refers to affected limbs)

The child may have Tremors too. A child may have more than one type of Cerebral palsy.

Management of a C.P. child is best accomplished by specially trained people, individualised teaching and therapy supported by specially designed furniture and a spacious school. The **team** consists of a special educator, physiotherapist, occupational therapist, speech therapist, general health worker and social worker.

Taking it as a challenge to develop the whole child can be an exciting and enriching experience. Finally it is the **Attitude** that matters - it should be **positive** and then there are really no barriers at all.

The parent can treat the following **physical and behavioural symptoms** as cues to seek further medical advice.

Physical Symptoms

a child may have some of the following:

- difficulty in sucking.
- difficulty in breathing.
- poor muscle control.
- muscle tone stiff, floppy or having spasms.
- scissoring of lower limbs (legs).
- poor reflexes.
- clumsy finger and grasp movements.
- husky/hoarse voice.
- poor neck control or balance.
- has motor problems.
- sensory problems of ear, eyes, speech, touch or spatial orientation.
- drooling of saliva.
- fits or seizures.
- does not bend knees and thighs or bring to extension posture.
- delayed milestones - turning, crawling, etc.

Readiness activities for children with locomotor disabilities

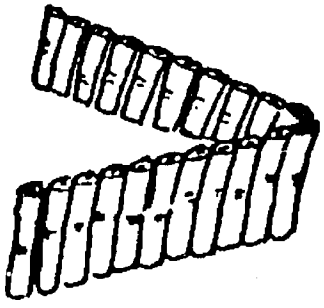
Children with locomotor disabilities require physiotherapy. Certain simple motor activities at the advice of professionals can be incorporated in the school activities. It is important to give chances to these children to participate in all activities like other children. Caution should be exercised

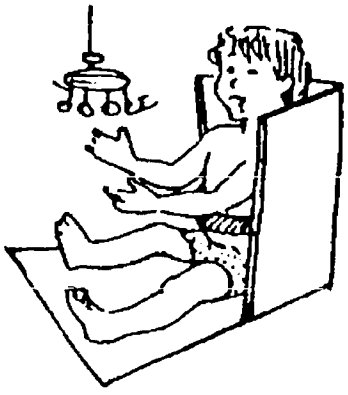
to prevent them from bumping into objects and people and avoid activities in slippery areas. In the classroom, sufficient moving space and seating in the place near the exit will be convenient for these children. They will learn academics like other children if given opportunities and teacher should encourage their involvement in all activities.

Furniture, aids and appliances for children with locomotor disabilities

Furniture - chairs with back support and rest, support in front, grip handle on front board, high back chair, bed props with pillows, all help in correct and comfortable positioning.

High back for
proper posture





Bamboo/card board box
for corner seats

Normal children move around, look, observe, ask and learn. A child with difficulty in mobility takes time to move about to be aware of self and environment.

Toilet training : Toilet Training is an essential pre-requisite for entering school and therefore it is important that this task is given priority.

The **normal age** for awareness

of wetness	- 3 months
Indication of toilet need	- 1-1 1/2 yrs
Unbutton, pull down pantie	- 2 - 2 1/2 yrs
Flush toilet	- 3 1/2 - 4 yrs
Turn door knob	- 3 yrs
Independent toileting	- 4-5 yrs

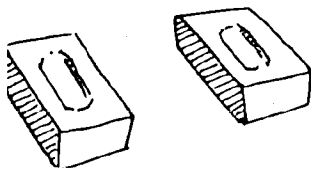
Points to remember while toilet training :

- stress on - proper seating position
  - proper standing position
  - held by parent when needed

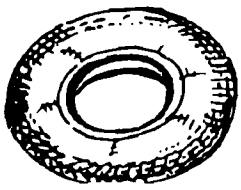
- Access to toilet to be easy;
- more space, less slippery floor,
- railings support along the walls,
- railings near commode or water closet
- broad door/sliding door - for more space
- easy flush-out handle or knob

In a child with cerebral palsy, delays and difficulties will be present.

Note : See sketches of low-cost toilet aids.

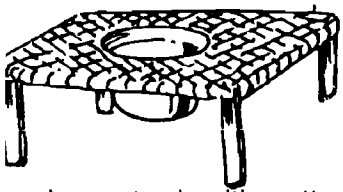


Bricks in the ground

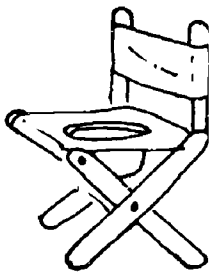


Tyre

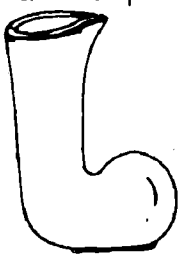
Low-stool-with potty



Low-stool with potty



Chair with potty



urinal for male children

INITIATING A CHILD WITH LOCOMOTOR DISABILITIES INTO A SCHOOL

Preparing and helping a child with locomotor disabilities to live a happy useful life is the joint responsibility of home, school and community. The initial responsibility lies within the family and home and partially or wholly remains there for life. Before a child can be expected to make an adequate school and community adjustments, he must achieve reasonable development socially, physically, emotionally and mentally at home. It is the responsibility of the home to develop within the child a readiness to accept and profit from whatever opportunities the school has to offer. It is also the responsibility of the home to supervise the health and physical well-being of the child.

School Preparation

To prepare the child for school it is desirable:

* to teach him self-help skills of toilet training, dressing and undressing, eating, drinking and personal cleanliness. A child may not be perfect in any of these skills but a good attempt should be made.

* to teach him to express his needs, if possible in words.

* to teach him to feed himself or handle a cup or a glass.

* to teach him to walk if his physical ability will allow.

* to teach him to respond to his name and follow simple directions. He should be made to understand to identify his printed name from a group of names.

* to teach him to play constructively and cooperatively with others.

* to provide opportunities to him to stay with people other than family members occasionally so that the break from family members when he commences school will not be too overwhelming.

* to teach him acceptable habits such as good behaviour, obedience and good manners.
* to prepare him to communicate with others.

Responsibility of the home for successful schooling

The home has the responsibility of

* preparing the child for school placement.

* assisting the efforts of the school in every manner. The home should follow up the training programme of the school by continuing these training programmes out of school hours.

Parents often need support from the teacher to gain confidence, while coping with the problems in helping their child develop to his maximum potential.

Responsibility of the school towards home

The parents would expect the following from the school:

* to provide educational opportunities for further development of the child suited to his individual needs and abilities.

* to employ trained teachers to attend to the children with special needs. They should understand the learning capacities of the children and be

able to evaluate the child's present and future needs, and be able to teach patiently, with compassion and understanding.

* to arrange or encourage discussions between parents and teachers to keep in touch with programmes and developments within the school.

* to be aware of facilities and services available.

* to encourage the parent to keep in close contact with school so that they will relate freely to one another regarding progress and developmental or behavioural changes in the child.

Responsibility of the community

The community should share the responsibility in this field as it does in all aspects of community life.

* To provide adequate diagnostic centres and counselling services.

* To provide adequate educational facilities and rehabilitation centres.

* To create awareness among the people about CP and other locomotor disabilities and form a support system for the families.

* To accept the child to the extent of his social adaptability and provide recreational opportunities.

Some tips for Teachers:

- be sensitive to the mood of a child.

- do not push or pressurize the child. Allow him to learn at his pace.

- be adaptable, eg. use the other children in your activity even if you are required to combine classes. This will enhance peer tutoring.
- give clear instructions and directions.
- be creative - think of a new song, a new game - to make the class interesting.
- use things particularly liked by children in the activity - eg. puppets, music.
- over planning - have a new approach or next step ready at hand to fill time effectively in case the planned activity is quickly over or cannot be carried out for certain reasons.
- use the "Teachable" moment. When child shows interest whether planned or not, use that "moment" to teach the child.
- Always see that the child with CP has a handkerchief would around his wrist of the better functioning arm so that he can wipe the drool when needed. Train him to wipe on his own without reminders.

Watch out for signs:

- of extreme temper
- of breath holding
- of self-hurt
- of extreme fear

For Teacher and Family to prevent these social and emotional problems

- Respect the individuality of the child.
- Make child feel secure.
- Give consistent and reasonable discipline.
- Encourage appropriate and constructive outlet of child's emotions.
- Observe healthy child rearing practices.
- Immunise against infectious diseases.

An Innovative Teacher will go beyond all given guidelines and improve on her own to make learning a joy for the child. Then alone can the problem of drop out be arrested and neglect and boredom will no longer hinder the child's attendance in school.

Physiotherapy - is a very important part of management and treatment of a child with cerebral palsy. Its role is to build abilities and develop skills via play, and exercises using aids and appliances to make it a pleasurable learning experience. Gradual improvements in muscle, motor and posture areas occur with physiotherapy as the child makes progress.

Both at home and school a child with cerebral palsy and other locomotor difficulties will need special attention on motor development and motor

CASE STUDY : 5

Sunil, aged 8 years, Son of Mr. & Mrs.Mehta, suffers from a progressive form of muscular dystrophy which causes wasting of the muscles and increasing weakness with great vulnerability to infections. He is not steady on his feet and moves slowly. His speech is impaired. He has peripheral vision and can read the blackboard if he is seated at a particular angle. He has above average intelligence and is fond of writing but writes slowly. He can make use of an electric typewriter efficiently. His mother was very keen to place him in an ordinary school. The Headmaster was initially very worried to accept him. The special educator, took time and efforts to explain to him and the staff of the school, regarding the condition of the child and the possibility of integrating him. After sustained efforts by the special educator, the child was accepted and integrated in the regular school system, in Class II.

Sunil is given a special chair and is made to sit in such a way that he can read what is on the black-board very comfortably. He also has access to an electric typewriter. Thanks to a corporate house! He is allowed to leave school an hour early so that he can go for physiotherapy and speech therapy. This appears to be a very successful integration. Sunil is keeping up with his school work and is very popular with his classmates. Currently he is in Class IV.

functions. This of course, is done through physiotherapy sessions. However, as these are never adequate, it must be enhanced with proper positioning and the encouragement of movement. It will be valuable for the teacher and parent to understand productive movement patterns. It is vital that therapy must continue all day, through all activities which the child does. This may seem like a difficult task, but actually is quite easy to follow, once we understand normal child development, specially motor development. The most important laws of development are that:

1. **Development takes place** in the same sequence for all children
2. Development is cephalo - caudal - (head first and feet last)
3. Development is proximo - distal (closer to the body first, like the trunk, and then shoulders to elbow, wrist and hands)

A child develops in the following order: head control - turning over - rolling - creeping - crawling - coming to sit - sitting - sitting balance - coming to stand - standing balance - side stepping - supported walking and then walking. Each milestone may overlap with the next one.

A non-disabled child will generally achieve these milestones in the first 12 -15 months. However, a child with cerebral palsy may take many years and may get stuck at any of the above levels.

The role of the teacher and parent is to help the child develop these milestones.

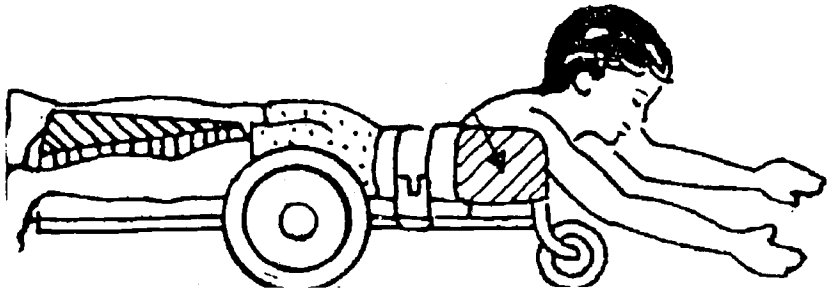
This can be done through several classroom and home activities. Actually the best way to decide the activities is to watch non-disabled children play, move and explore the environment. Non disabled children, as we know, learn an enormous amount of concepts and how to control their environment through exploratory play.

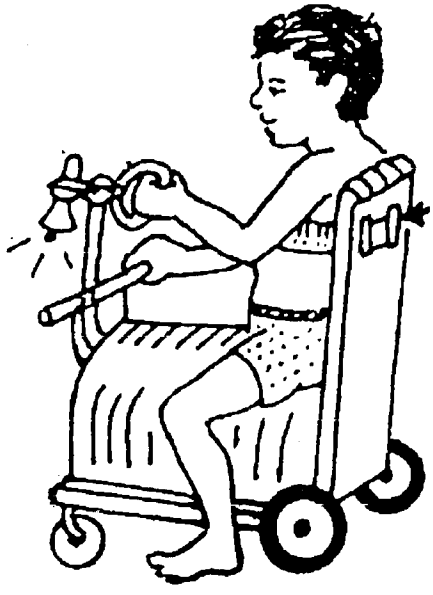
The role of the teacher then is to **bring the environment** to the child, **to let the child experience movement** and **to make things happen** for the child, which other children will make happen naturally.

Therefore, many play activities can enhance physiotherapy. Eg. Ball Play: If you let the child **reach out** and **grasp** a large ball, hold it with both hands, in the sitting position take it over the head and **throw it** - while calling out to a classmate, in therapy you will achieve:

Sitting and sitting balance for hand function - reaching, grasping, releasing - and bilateral function using both hands and helping the child to work in midline. This will ofcourse also encourage peer interaction. In the same way, play activities on play equipment or other classroom activities will help with therapy.

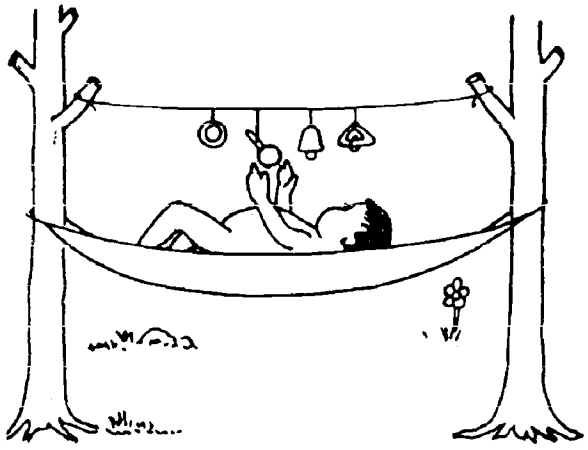
However, when a child cannot move, it becomes difficult to **include** the child into these activities without some aids and adaptations. The use of buggies, crawlers, scooter boards and special furniture may be very useful.

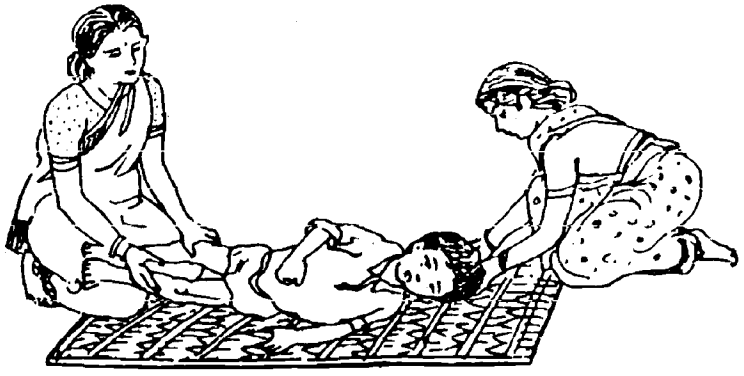




Positioning a child correctly, is also therapy. Children with cerebral palsy also need postural changes quite frequently, otherwise they may develop problems at the spine, hip, knee and ankle. The most important areas to remember for positioning are:

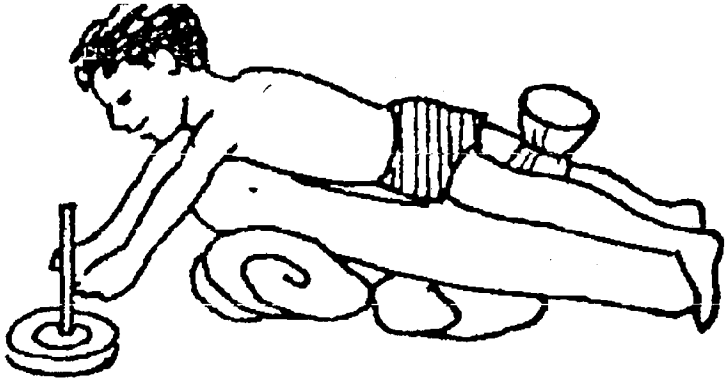
1. Supine lying (on the back) is quite unproductive for learning and should be discouraged, unless for a period of time a hammock is used, which raises the head and. The baby can have mobiles hung todevelop eye hand co-ordination.



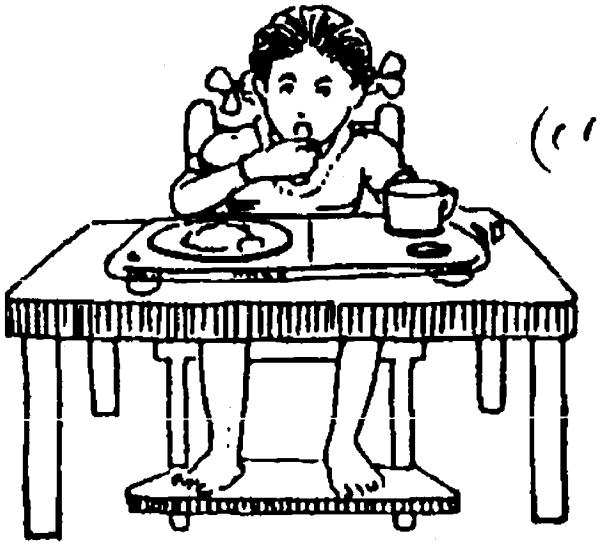


2. Side lying with work given to the child to use both hands is useful. Can also be used in the classroom, for short periods of time. Side lying is good for sleeping also.

3. Prone lying (on the stomach) is very useful when children have to develop head control. Can be used, with material provided at eye level. A prone board is handy in the classroom.

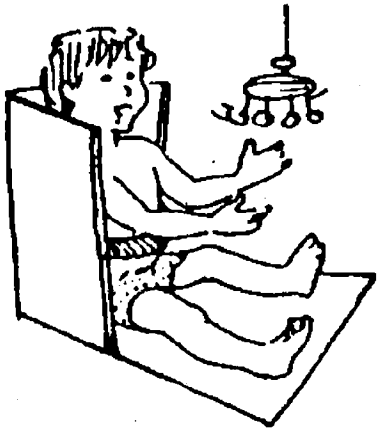


4. In sitting, a good chair which helps the child to have her feet firmly on the ground or on a foot rest and minimal support whenever she needs it, is essential. It may be a good idea to ask a therapist to design such a chair. However, if a therapist is not available the ground rules are:



- on the chair, the child must bear weight equally on both sides, with the spine straight. If weight bearing is wrong the child may develop spinal deformities.

The seat could be inclined slightly 15 degrees - seat upwards or - seat downwards depending on what suits the child. This can be tried by placing the child on a regular chair and tilting it by 1" on either direction and seeing how the spine straightens itself. The table must be at the correct height and should come a little lower than the chest of the child.

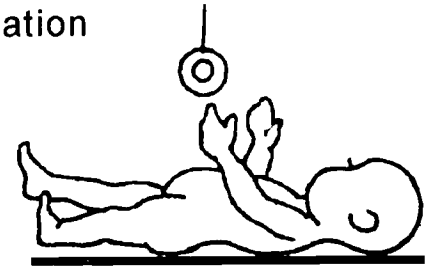


- While working on the floor, the child with cerebral palsy can also be included by helping her to sit in W position, or cross legged sitting (if she is comfortable) or on a floor seat.

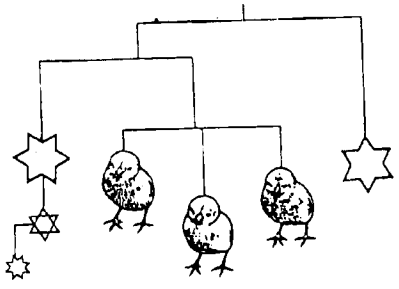
Physiotherapy for children is basically encouraging movement in all activities. Even something as simple as asking the child to switch on the fan or light can help the child develop motor function. Teachers and parents then can participate fully in the child's development and do not have to rely on a therapist (who may not be available).

Management of a child with locomotor disabilities **at home** will involve areas of:

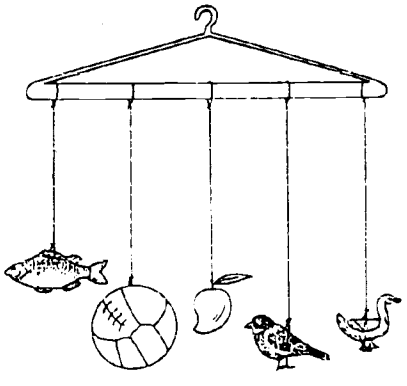
1. Sensory stimulation
2. Feeding
3. Furniture adaptation
4. Toilet training
5. Mobility enhancement
6. Proper Clothes
7. Socialisation and play
8. Communication



1. Sensory Stimulation is given in areas of (a) vision, (b) smell, (c) hearing, (d) tactile/touch and (e) taste. Most children require all in some degree or the other. Simple mobiles in bright colours hung on a cloth hanger with various colours at the child's vicinity are highly stimulating.



Suspended Mobiles stimulate eye-hand coordination and auditory discrimination (differences in sounds) when the objects move.



Most **materials** are **easily available** at home to train them.

(a) Vision - use a torch - allow the child to track light, left to right,up and down.Encourage the child to look at objects that are red, bright and shiny. Let him look and track. Let him hear sounds and turn to gaze.

(b) Smell - use foods, flowers, incense sticks, petrol, garlic, onions or shoe polish. If the child likes the smell, he will express through gestures, if he dislikes, he will push it away or turn away his head.

(c) Hearing - Allow the child to turn to sounds of paper, toys (drum), bells, clapping, gadgets, tap, calling name, clap on thighs, open and shut mouth with a slight sound, sounds of animals, pets, vehicles, kitchen items, cassettes, radio, fan, mobiles (old tins having seeds filled inside), shuffling of feet on paper, scissors, shoes, brush, flush tank, kitchen sink, police siren, stone in pool, kicking of leaves, sound of breeze, wind.

(d) Tactile - Let him feel textures - cotton cloth, wool, silk, dough, wood, metal, shapes of furniture, bed, chair, cot, sand....

(e) Taste - is influenced by smell. It is observed that,

Salt - mostly disliked.

Sweet - most children like.

Sour - very sharp response.

Bitter - dislike

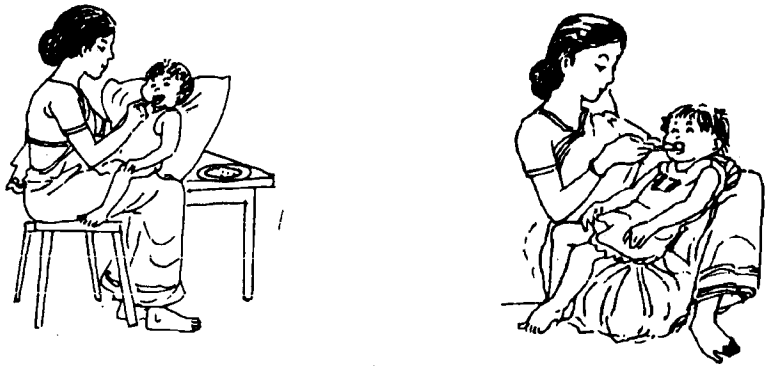
- vomit or tantrum

Organic sensitivity - of crying for, hunger is learnt by association.

2. Positioning - This is discussed in detail in earlier pages. However one should remember the following points

- hold the child close to mother in infancy.
- give comfortable position.
- much support will be required to maintain proper posture and balance to enhance therapy and education.
- help may be required to turn the child.
- to stretch baby's legs.
- to open and close grip.
- to give balance to back for sitting, for a long time.
- to give support to lower limbs.

3. Feeding - Proper feeding is essential for child's healthy physical and dental development. The organs and their movements required for feeding are the same ones for speech. Children with cerebral palsy have sucking - swallowing reflex insufficiency, persistent drooling, tongue thrust and difficulty in chewing. Therefore, correct feeding patterns need to be followed.



Correct positioning for feeding

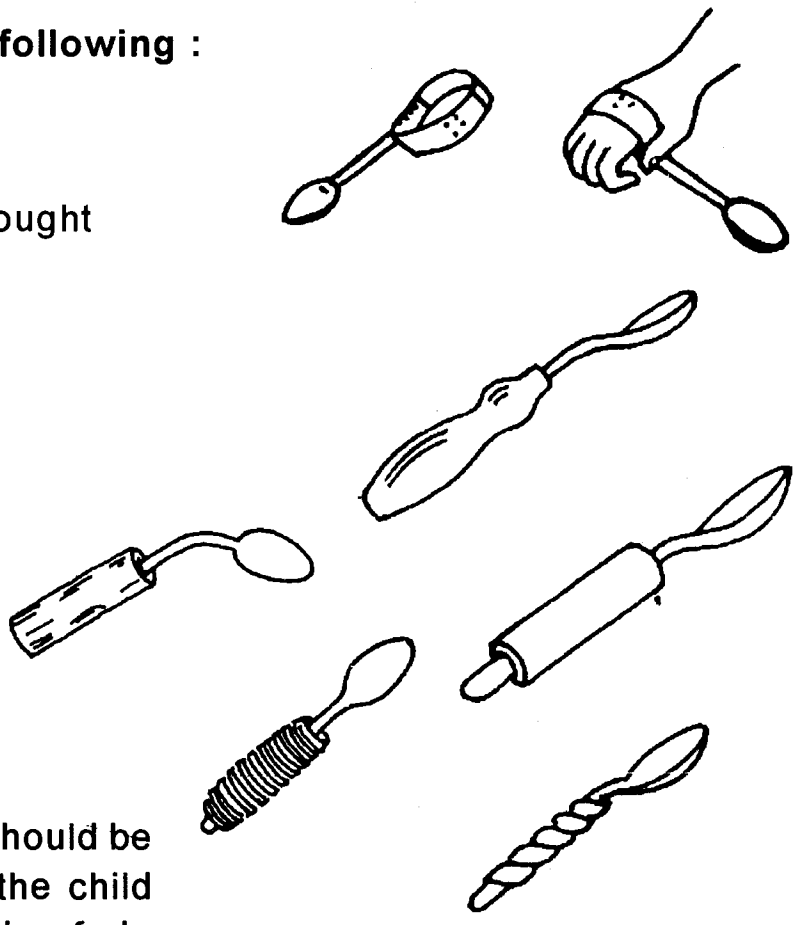
CASE STUDY : 6

Andrea is 8 years old born to Mr. & Mrs.Lazarus and has cerebral palsy. She can walk without aids but she does so slowly and shakily. She cannot use her right hand for writing and cannot hold the pencil firmly in her left hand. She has slurred speech. Academically, Andrea is above average and socially she is well accepted and happy. The children were told about her before her admission to school. Although they were at first anxious, this quickly wore off. To facilitate good writing, she was provided with a pencil grip and this helped her with a firm tripod grip. She goes to a speech therapist twice a week.

The success of her integration into a normal ordinary school seems to be mainly due to a very supportive family on one hand and on the other to a very sympathetic and cooperative staff and students in the school.

Make sure to provide the following :

- good back support
- trunk and head to be brought forward
- use of foot-rest
- jaw exercises
- varied spoons, beakers
- raised plate
- plate fixed on board



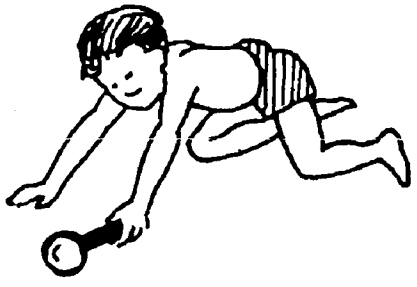
To **facilitate feeding,** food should be interesting and varied and the child should be hungry before being fed.

4. **Socialising** begins first within the family, then with neighbours and other children, at school and in society.

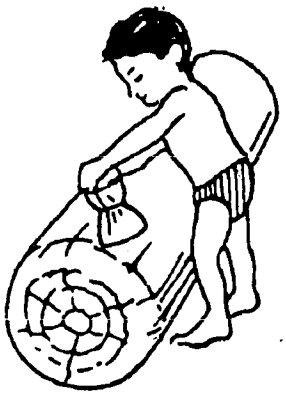
A child with a disability requires socialisation and exposure to gain self-confidence and thus improve in regular activities.

5. **Play** enhances socialisation and is fun. **Skills learnt** during play are learning.

- to wait
- to cooperate

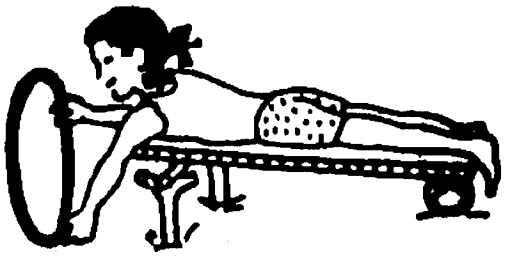


- to cope
- to interact
- to make a choice
- to solve a problem
- to explore
- to imitate
- to repeat
- to relax
- to find the hidden toy'



Play

- should be **taught** to a special child.
- the game should be appropriate.
- the game should be graded.
- sand and water play are also good.



Having thus managed the child at home, the **Family** should realise the need of a school for the child. The school experience cannot be substituted totally at home - being with peers will benefit the child and the family.

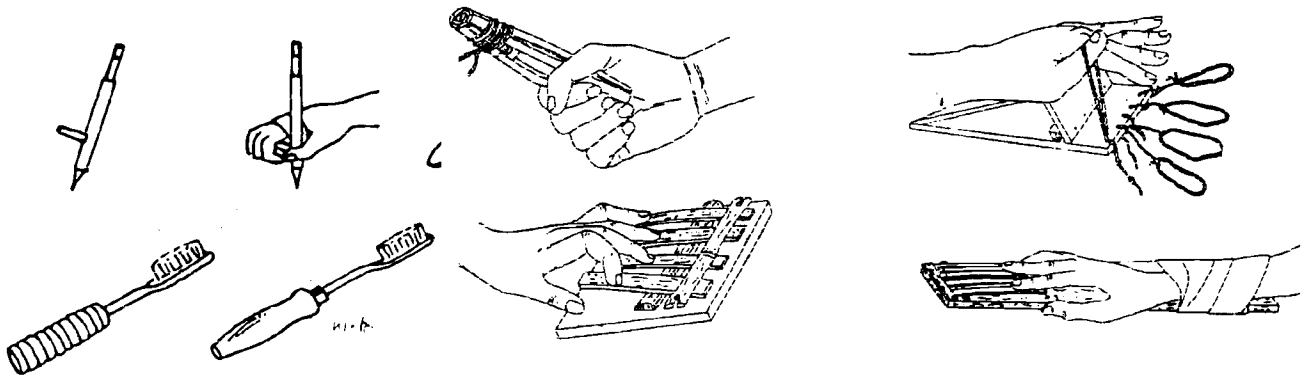
6. Motor skills

Motor skills and activities are to be incorporated in areas of learning from infancy to 6 years.

- lying
- crawling
- sitting
- grasp hold chair
- stack
- unscrew
- take apart toys
- clay play
- kick ball
- somersault
- picture puzzles - 2-3 pieces
- tip-toe walking
- jumping
- use of scissors
- fixing pegs
- colour
- build tower
- squat
- sit
- bend to pick up
- use rocking chair
- walk on steps - up/down
- string beads
- throw ball
- stand
- run
- colour inside stencil or templates
- walk backward
- cut shapes
- screw, lid of jar
- thread objects
- draw tree, house
- skip, dribble ball
- tear shapes from paper
- folding paper 2 times
- ball and bat
- play in waist deep water
- stand on one foot for 10 seconds

Adaptations

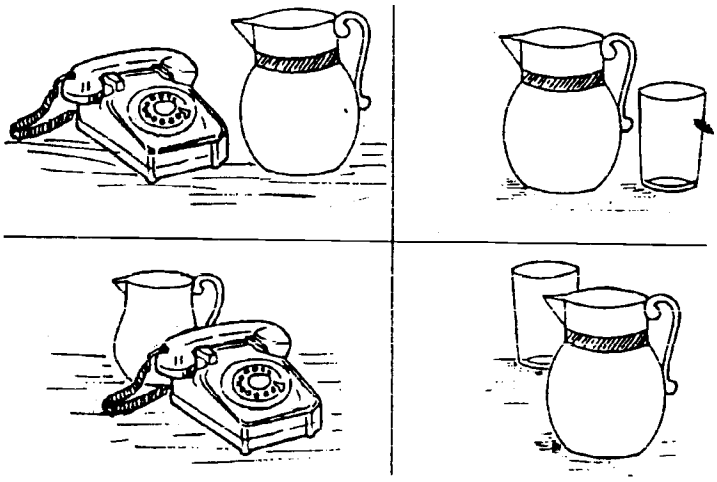
- Use PVC tube over pencil or stick for better grasp and grip.
- Put plastic covers on cards and pictures to protect from drool.
- Simple helmet to prevent injury from head-banging if present in a child.
- Hand and finger splints for supported grip - to restrain over-movement. Use locally available materials for developing hand exercises.



Adaptions and exercises for hands

7. Number Readiness

- To teach concepts of
- big, small
- more, less
- before, after
- high, low
- tall, short
- thick, thin



concept of behind, infront of, beside

- long, short
- half, whole
- missing parts
- behind, beside
- heavy, light
- in, out
- 3 in a row
- count rote numbers
- what next
- birth date, month
- days of week
- point to numerals
- left, right to oneself
- first, middle, last
- behind, in front of beside

use of vegetable moulds

For activities

- use examples of colours of leaf, lime, hair, bottu/bindi, coal
- colour with chalk, charcoal, rangoli powder, vegetable moulds.
- sequence cards of crow and pitcher story, crow and vada story.....
- water in 2 glasses to show more and less
- use child in front of mirror for showing tall and short

- **all activities used for normal children for these concepts are suitable for a child with locomotor disability also. Make sure that you use adaptation for his hand function and mobility as needed.**

Tips

- Use old shaving brush, sponge or soft-pin-cushion-pad for applying glue.
- Use paste of maida in place of gum.

8. Reading Readiness

- Matching - flowers, leaves, stones, feathers.
- Name, paste and colour
- use fruits, pictures.....
- Sounds - own name
- generalise to Kavva, Kamal, Kaala.
- Oddman out - classify objects
- Missing parts
- Develop vocabulary - name words with 'D'...

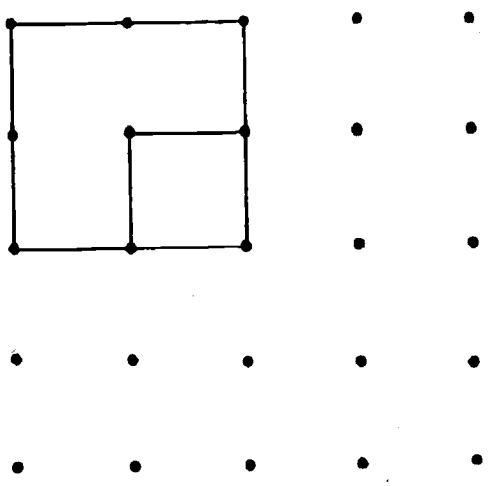
Activities

- use sounds in audio cassette to repeat in class for indoor learning sounds of rain, frog, storm, train, waves.
- use of patterns for odd man out.
- Use of songs and games for learning.
- Use of riddles.

Adaptations - Aids - Reading stand, page turner when required.

9. Writing Readiness

- Colour within outline.
- join dots.
- copy patterns
- draw zig-zag lines
- trace over
- copy forms - shapes
- follow maze



join dots

Activities

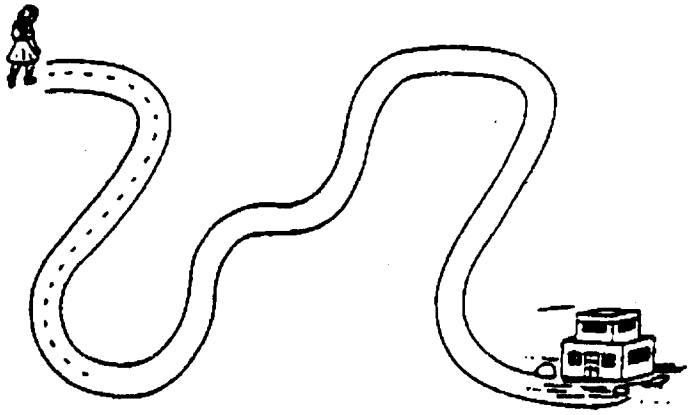
- Draw on sand, floor, slate.
- Clay modelling
- Colouring within outline.
- Play with blocks.
- Children to form circle, square.
- Use examples of oval - egg

  triangle - roof

  circle - bangle

  square - window

  rectangle - brick



follow maze

Aids

- Use big wooden models of shapes for child to move in and out of it. This develops Spatial concepts.

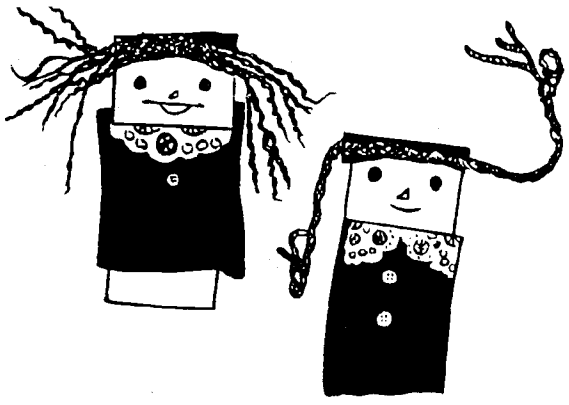
- Child may later need to use a typewriter. So, allow to use a play piano key board, Xylophone, or casio as starters.

10. Language Development

Through

- conversation - general topics, school, class, family.
- repeating sounds of syllables
- labelling objects - ball, cup
- story telling
- jokes
- simple riddles - what happens if an egg falls....
- rhymes
- make believe play
- environmental sounds - bird in a cage, etc.
- parts of body on self
- names of toys
- use of here, there, where, ask for more, all gone, pointing
- outings

Activities



rag dolls

- in informal setting
- sitting in a circle
- in a group
- enjoyable stories
- use of new words gradually
- children to develop the story
- use of flash cards, picture books, puppets
- tone intonation
- simple shadow play for dramatisation
- outings to collect for scrap books,leaves, feathers, flowers, shells
- use of collage to develop story or picturise story
- use of alternate modes of communication where needed

EVALUATION OF CHILDREN WITH LOCOMOTOR DISABILITIES

Informal assessment of the child on the basis of:

* Social
* Physical
* Learning capacities

* **Social**
  - Is the child happy
  - Regular to school
  - Mixing with others
  - Friendly

* **Physical and Cleanliness**

  Is the child
  - taking part in the class
  - maintaining body balance
  - exhibiting coordination
  - energetic
  - washing hands when required to
  - being neat and clean

A child with cerebral palsy

- may need to wear a bib
- may need more time to go to the toilet
- may need more time to move around
- may need more time to eat
- may need to use a typewriter/computer in later years to replace writing

* **Learning Capacity**

- is attention span adequate
- can the child recognise concepts
- does he/she show interest in learning
- is he/she able to repeat simple stories
- is he/she able to generalise
- does he/she use correct vocabulary
- does he/she use flash card, symbol charts adequately
- does he/she enjoy creative activities

Note:

A child with a disability, even if ready to integrate into regular school may take longer than the mandatory six weeks of readiness training as for normal children. In such a case the child may be given longer period of time to arrive at readiness in view of the fact that the Government is giving concessions of time, scribe, waiver of maps, geometry and lab work later, at school leaving examination stage to persons with disabilities.

In working with children with locomotor disabilities the teacher should always remember that these children have needs that they share with all children but which in their case are crucial. They need to feel that the teacher understands them and their background. They need to feel the satisfaction of performing tasks successfully and they need to feel that they are members of the respected group. It is the teacher's privilege to fulfill these needs.

MENTAL RETARDATION AND LEARNING PROBLEMS

MENTAL RETARDATION AND LEARNING PROBLEMS

INTRODUCTION

A child with mental retardation is one who has arrested or incomplete development of mind. This results in impairment in the adaptive behaviour of the child. That is, children with normal intelligence are expected to have certain developments and behaviours at each stage of their life, such as ability to walk independently by 20 months, speak in 2-3 words by 2 years, have toilet control by 3-4 years, and so on (see screening schedules 1 and 2). In a mentally retarded child, there is a delay or arrested development of such behaviours. Generally the age upto 18 years of a person's life is called developmental period. Due to reasons similar to those in other disabilities, before birth, during birth or after birth within 18 years, if a child shows limited and delayed development, he is considered mentally retarded. He tends to learn things more slowly than other children of his age.

According to the Persons with Disabilities Act, 1995, "mental retardation' means a condition of arrested or incomplete development of mind of a person which is specially characterised by subnormality of intelligence.

The degree of mental retardation is judged by standardized intelligence tests, adaptive behaviour assessment and clinical measures. About 2% of the population is estimated to be mentally retarded.

Mental retardation cannot be cured. However, early detection, intervention, special education and training can help those with mental retardation to lead their lives independently to a great extent. Associated medical problems such as epilepsy can be treated and controlled by medical advice.

Screening Schedule No.I (below 3 years)

S.No.	*Item*	*Normal age range*	*Milestone delay if not achieved by*
1.	Responds to name/voice	1-3 months	4th month
2.	Smiles at others	1-4 months	6th month
3.	Holds head steady	2-6 months	6th month
4.	Sits without support	5-10 months	12th month
5.	Stands without support	9-14 months	18th month
6.	Walks well	10-20 months	20th month
7.	Talks in 2-3 word sentences	16-30 months	3rd year
8.	Eats/drinks by self	2-3 years	4th year
9.	Tells his name	2-3 years	4th year
10.	Has toilet control	3-4 years	4th year
11.	Avoids simple hazards	3-4 years	4th year
Other Factors			
12.	Has fits	Yes	No
13.	Has physical disability	Yes	NO

If the child is found to be delayed in any one of the items given from 1-11 and if the child has fits or physical disability, suspect mental retardation.

Source : NIMH (1987) Mental Retardation : Manual for VRWS.

Screening Schedule No.II (3 to 6 years)

Observe the following:

1. Compared with other children, did the child have any serious delay in sitting, standing, or walking? Yes / No

2. Does the child appear to have difficulty in hearing? Yes / No

3. Does the child have difficulty in seeing? Yes / No

4. When you tell the child to do something, does he seem to have problems in understanding what you are saying? Yes / No

5. Does the child have weakness and/or stiffness in the limbs and/or difficulty in walking or moving his arms? Yes / No

6. Does the child sometimes have fits, become regid, or lose consciousness? Yes / No

7. Does the child have difficulty in learning to do things like other children of his age? Yes / No

8. Is the child not able to speak at all? (cannot make himself understood in words/say any recognizable words)? Yes / No

9. Is the child's speech in any way different from normal (not clear enough to be understood by people other than his immediate family?) Yes / No

10. Compared to other children of his age, does the child appear in any way backward, dull or slow? Yes / No

---

If any of the above items is answered 'Yes', suspect mental retardation.

Source : NIMH (1987) Mental Retardation : A Manual for VRWS.

One of the early indicators of mental retardation is developmental delays. All the milestones of development (such as sitting, standing, walking, talking and so on as mentioned earlier) will be delayed in a mentally retarded child. Without wasting time, if the child is provided early intervention, further damage can be arrested. Further, parents, caretakers and families can be helped to develop positive attitude towards the child.

Preschool teachers can play an important role in helping children with developmental delays.

Seizures or Convulsions - Fits - is a relatively common disorder which manifests in sudden uncontrolled surge of electrical activity in all or part of the brain in some children with mental retardation or cerebral palsy.

Common signs include the following which occur singly or in combinations for different types of seizures. They are:

- Twitching of fingers and/or eyes
- Mouth turns to one side
- Vigorous shaking or jerking of limbs
- Dilated eyes
- Clenched teeth, and/or fist
- Drool
- Fall
- Confusion

- Unconscious status
- Vacant look
- Pull at clothes
- Push backwards
- Go round in circles
- Bladder incontinence (urinates involuntarily)

These occur during or after a fit usually.

DO's

1. Keep calm.
2. Roll child to side - atleast face - in lying position.
3. Clear area for air, loosen clothing.
4. Clear area of sharp objects.
5. Offer support after fit.
6. Get medical aid.

Don'ts

- Move person during a fit unnecessarily.
- Try to stop the fit.
- Force anything into the mouth.
- Give medicine or water.

Convulsions can be controlled to a large extent by drugs. Consult a Doctor. Do not start or stop medication on your own. Fits are not infectious. A child with seizures should go to school at the same age as others and be treated at par with other children.

Clothing

Clothes should generally:

- be loose fitting and comfortable.
- be less of poky buttons.
- have tape to tie ends.
- have velcro buttoning pattern.
- have elastic bands for grip.
- have zip openers which are easy to use.

Intervention of children with mental retardation

A child with mental retardation learns various activities slowly. He requires concrete experiences and examples to understand concepts. He exhibits difficulty in situations requiring decision making and problem solving. As a mentally retarded child has limited ability to understand cause-effect, his problem solving ability is impaired. The degree of mental retardation ranges from mild to profound (see table - classification). Based on the degree or severity of retardation, his functioning ability varies (see table - expectation). Their communication ability is limited and many with severe mental retardation tend to be nonverbal. Gestural communication is encouraged in such cases. A speech pathologist can guide such children. Many of them tend to have associated medical problems such as epilepsy,

hyperkinesis and other nutritional disorders, requiring physician's attention. Some have other disabilities leading to impaired mobility and other motor functions. Such children require physiotherapy and some need psychological intervention for behaviour related issues.

Table-1: Classification of Mental Retardation

Medical	Educational (Old)	Educational (Current)
1. Infections and Intoxications	1. Educable	Pre primary
2. Trauma or physical agent	2. Trainable	Primary
3. Metabolism or Nutrition	3. Custodial	Secondary
4. Grossbrain disease (post natal)		Prevocational
5. Unknown prenatal influence		Vocational
6. Chromosomal abnormality		Care group
7. Gestational disorder	Psychological	
8. Psychiatric disorder	1. Mild - (50-70)	
9. Environmental influence	2. Moderate - (35-49)	
10. Other influences	3. Severe - (20-34)	
	4. Profound - below 20	

Many attend special schools and some are in regular schools also. A special educator develops an individualised education programme after assessment of current level of functioning of the child and teaches the child. Periodic progress monitoring helps in further programming.

Table-2: Characteristics of persons with various degrees of mental retardation

Description \ Severity level	Mild	Moderate	Severe	Profound
Preschool 0-5 yrs	Can develop social communication skills, minimal ratardation in sensori motor areas, often not distinguished from normal until late age.	Can talk or learn to communicate; poor social awareness; fair motor development, profits from training in self help; can be managed with moderate supervision.	Poor motor development, speech minimal; generally unable to profit from training in self-help; little or no communication skills.	Gross ratardation; minimal capacity for functioning in sensori motor areas; needs nursing care.
School age 6-20 years Training and Education	Can learn academic skills upto approximately 5th-6th grade level by late teens; can be guided toward social conformity.	Can profit from training in social and occupational skills; unlikely to progress beyond 2nd grade level in academic subjects; may learn to travel alone in familiar places.	Can talk or learn to communicate; can be trained in elementary health habits; profits from systematic habit training.	Some motor development present; may respond to minimal or limited training in self help.
Adult 21 yrs and over social and vocational adequacy	Can usually achieve social and vocational skills adequate to minimum self support but may need guidance and assistance when under unusual social or economic stress.	May achieve self maintenance in unskilled or semi-skilled work under sheltered conditions; needs supervision and guidance when under mild social or economic stress.	May contribute partially to self maintenance under complete supervision; can develop self protection skills to a minimal useful level in controlled environment.	Some motor and speech development; may achieve very limited self-care; needs nursing care.

Adapted from Mental Retardation Archives of the U.S.Department of Health, Education and Welfare, P.2 United States Government Printing Office, Washington D.C., 1963. Printed in Modern Synopsis of Comprehensive Text Book of Psychiatry/ III Edition - Eds. Herold.I.Kaplan and Benjamin, J.Sadock Williams and Wilkins Company - Baltimore, 1981.

Educational facilities for children with mental retardation

In addition to a team of professionals working with children with mental retardation, the teacher plays an important role in their alround development. The special teachers for mentally retarded children are trained and predominantly work in special schools. In places where special schools are limited or due to distances or if children cannot go to schools, the special educators provide home based training. In home based training, the parent is trained periodically by the special teachers to train the child at home. Depending on the mutual convenience of the teacher and the family, the training is imparted either at home or at the training centre. When the trainer visits home and trains, it is called home based training while if the parent/family member brings the child to the centre periodically, it is called centre based training. This model of service helps children with severe motor disabilities and severe/profound mental retardation.

There is another educational model called resource room facility where the schools for normal children have a resource room. A resource room has educational training materials for disabled children and a trained resource teacher who will help the regular class teacher, as well as the children with disabilities to learn appropriately at their own pace. This facility helps children with any disability.

Role of parents in the education of children with mental retardation

As the development is slow in children with mental retardation, they take longer time to learn when compared to other children. Children with mental retardation also have difficulty in transferring what they have learnt in one situation to another situation. To get the maximum benefit of teaching children with mental retardation, it is essential that parents are involved at

each stage. Whatever is taught at school, the teacher should make an effort to inform the parent so that similar activities at home environment with household materials can be provided by the parent. For instance, if the teacher has taught colour red with blocks and beads at school and told the parent so, the parent will automatically use tomato or red shirt or red chillies to strengthen the concept learnt in school.

The teacher should keep herself informed about the child's medical problems, and the medicines he takes so that she can suitably organise activities for them. For instance, those children with epilepsy should be given activities not involving sharp instruments, fire, swimming and such other tasks that are dangerous.

Creativity and imagination of the teacher is very essential in training the mentally retarded children, as variety sustains the interest of such children. Alertness and observation of the child's reaction to his environment will provide the teacher with clues for training.

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 overemphasise 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.

Activities for School Readiness

Selection of activities for developing school readiness amongst children with mental retardation has been categorised across level 1 to level 3. The divisions do not restrict the teacher with time limits within which targets have to be met. Flexibility can be exercised to suit the child's individual rate, style and learning and specific strengths for learning the activity.

What is important is to identify child's ability to perform tasks selected and master them for school readiness. However, it would be wise to start teaching a child after ensuring that the child has necessary pre-requisites to learn a given activity.

One of the major learning characteristics among children with mental retardation is their **slowness in learning,** demanding **longer time** and **repetition** to practice. **Poor attention** constitutes an important factor which requires that an activity is carefully planned and carried out so that the child's **attention is aroused** and **sustained.** This consists of planning out strategies to stimulate, reducing distractions, individualising training, assisting appropriately, and giving opportunities to observe normal peers or more competent peers.

Another major learning characteristic among the persons with mental retardation is their deficits in the ability to **generalise.** It is essential to maintain continuity in practising learnt activity at home and pre-school. Frequency of practice and appropriateness to perform in given context is a skill leading to mastery only after they have had an experience of their own, instead of just observing others. This calls for special attention at home, and therefore this handbook suggests activities for school readiness which can be practised at home also. Family members can easily follow these activities, as the materials suggested are available at home. The methods listed allow for flexibility.

Most of the school readiness activities are transition activities from more informal to formal ones. Hence the categories of activities selected in this handbook involve conversation and creative activities. Games, stories and songs can be taught with pictures and actions as generally done for normal pre-school children. Mentally retarded children require multisensory input for better learning. Therefore, add as much visuals, gestures and actions as possible so that they learn better and the classes are interesting.

Each of these activities will cut across 3 levels of performance. Pre-requisites as well as outcome indicators are clearly listed to enable teachers and parents to evaluate where to include or transfer from, and when the child has mastered a given level of performance.

1. Conversation

Every aspect of learning involves interaction of verbal or non-verbal mode. Teachers and parents are the persons involved in initiating this aspect of development in a pre-school aged child. The child develops from pointing to an object to naming it which is a constant phenomenon. It then progresses to describing objects or understanding and stating the functioning of a given object, finally leading to discussing about it. This process enables the child to be less dependent and express oneself with clarity of thought. It helps to achieve effective skills in interaction and also promotes scope for socialisation, while interacting with peers. The activities listed here are provided level-wise so that the children will gradually develop skills in interaction.

Activities:

Level 1

a) Tell your name.

b) Ask each child his/her name.

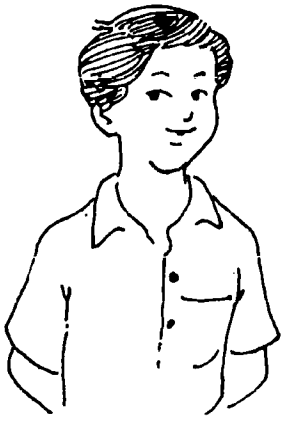
c) Tell children in group the name of the school.

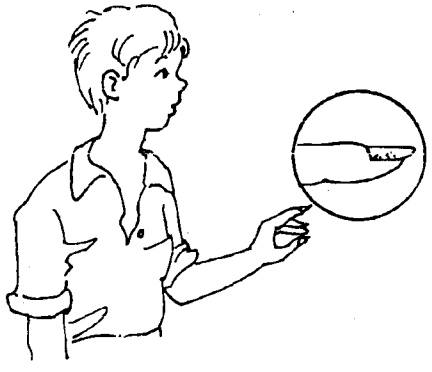
d) Encourage children to talk about their home and family.

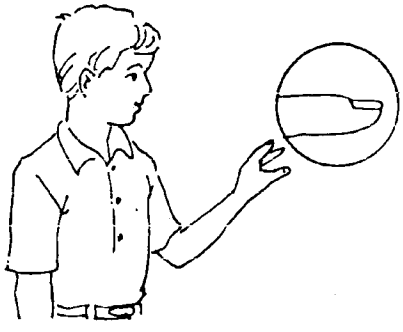
e) Let children tell about their homes, name of parents.

f) Introduce children to school building, facilities in school, other neighbouring classes.....

g) Note cleanliness and hygiene in children such as dress, bag, nails, hair, hands, shoes and socks. . . . .







Shabby

neat and tidy

Activities for Home

Pre-requisites:

a) To recognise their own name by responding when called and to tell the name when asked.

Material:

Use of objects belonging to child, eg.,child's photograph.

(b) To say a sentence with 2-3 words.

Material:

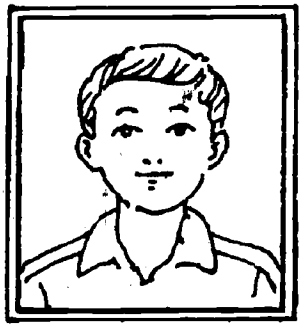
Use of action pictures from magazines - commercial advertisements.

(c) to patiently listen and comprehend name of a place when being told and recall it after a gap of a day or two.

Material:

Pictures of familiar places like home, school, playground, familiar locations,

d) To listen or comprehend simple instructions and ask simple questions using a sentence of 2-3 words.



Self

mother

father

e) To recall names of familiar persons and family members, when asked.

Material:

Photographs of family gatherings with close family members and family friends in it.

f) Listening and comprehending when instructed, using single command/ statements. Cooperating when asked to answer.

(g) Patiently listening to information being given for a duration of 5 minutes atleast, particularly when amongst 3 to 5 members.

Material

Story charts, commercial advertisement pictures, pictures of familiar photographs of locations visited.

h) Comprehending and appreciating when praised, understanding being credited for a certain achievement.

Material

Pictures of school children with neat uniform, samples of clean folded uniform (ironed), shoes and socks/any footwear, organised belongings in a bag (pick up a bag of a peer in the class which has items organised in it).

Level 2

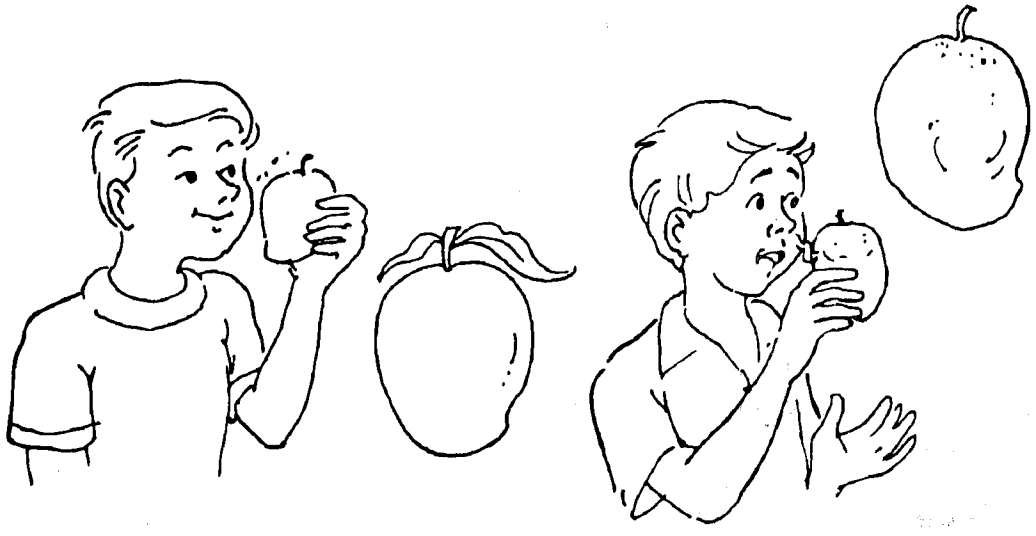
a) Discuss importance of hygiene and cleanliness - such as keeping hands, finger nails, ears and hair neat.

b) Teach children the ability to match clothes with the help of matching colours - such as matching colour of blouse with skirt, shirt with nicker or pant, socks with dress, ribbons with dress, and so on.

c) Discuss how colours are helpful in selecting vegetables raw and ripe, good and rotten fruits and vegetables.

d) Discuss how smell helps us to select food that is tasty, food that is stale and no longer suitable to eat.

e) Let the child learn to feel the objects and recognise them by touch and also feel the difference between fruits that are raw and ripe by feeling the firmness or softness or texture of its skin.



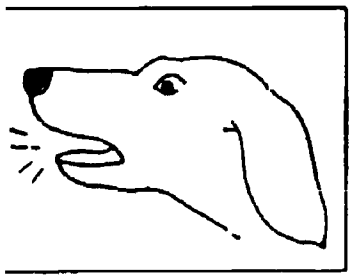
Differentiate raw and ripe from colour, touch, smell...

f) Discuss how important it is to recognise voices/sounds of familiar persons, vehicles and animals.

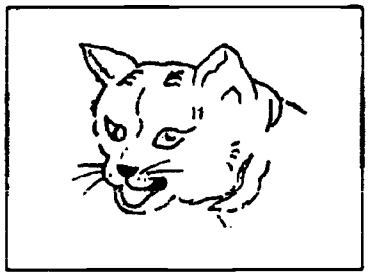
g) Discuss the importance of good habits and importance of maintaining them regularly.

h) Talk about common pets animals - such as dogs, cats, parrots, goats, cows, etc.

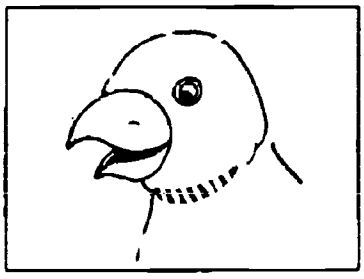
i) Converse about the sounds that these common pets animals make,



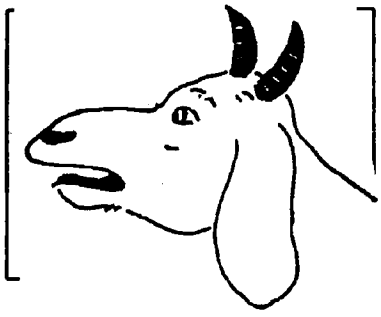
dog.....bow bow



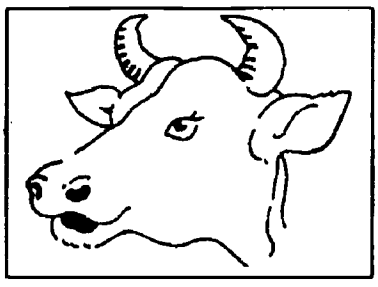
cat.....mew mew



parrot.....squeak



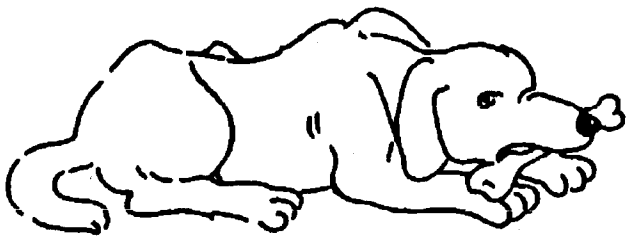
goat.....meh meh



cow.....ommaaoh

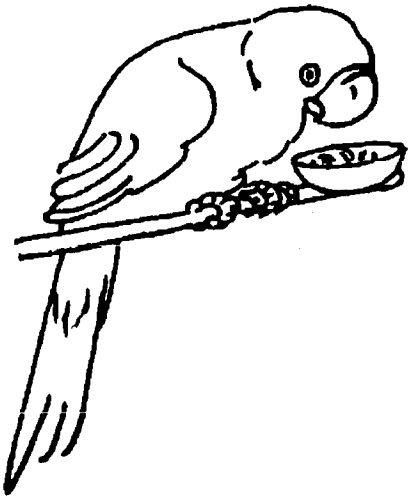
(j) Talk about the specific characteristics or appearance such as:

dog action of mouth while barking or eating a bone.

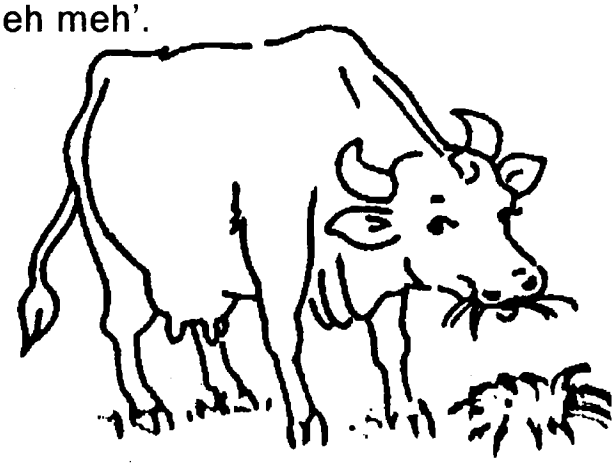


cat licking milk with tongue.
(slurp, slurp.....)

parrot moving neck forward and backward while chirping.



goat moving head sideway while saying 'meh meh'.



cow chewing movements of lower jaw while eating grass.

k) Discuss the way these animals look - this can be done by using pictures of these animals or toys, alongside when describing their physical characteristics.

Suggestions for practice at home

a) to (f) same activities can be practised at home.

g) Most important aspect of habit formation is to allow the child to follow them consistently and participate voluntarily.

h) Encourage the repetition of all the activities, listed from in 'conversation'.

i) Take the child out to visit families who have pets. Show them the food these pets are fed on, details of how they look physically (significant features), sounds they make, and so on.

Level 3

a) Encourage children to talk about objects that are used by them for their own needs everyday such as:

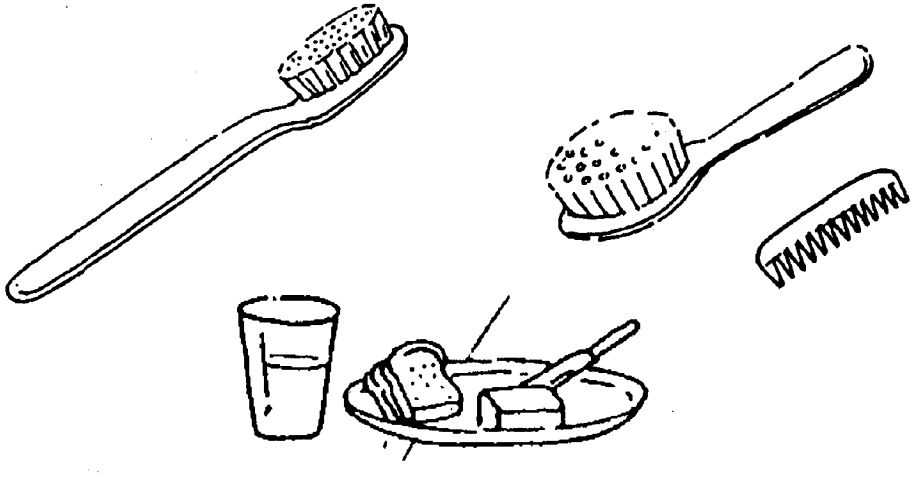
i) Brushing

ii) Bathing

iii) Eating

iv) Combing

v) Playing



b) Encourage children to talk about objects that are in their homes and used everyday.

i) Radio

ii) Torch

iii) Jug

iv) Bag

v) Jar

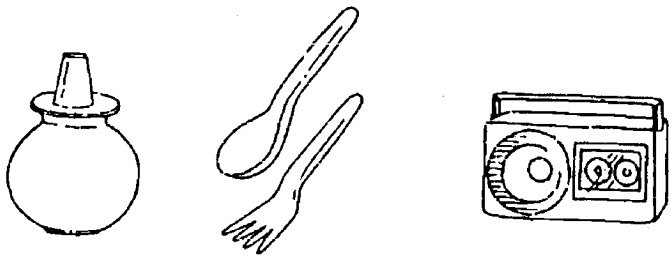
vi) Pot

vii) Books

viii) Shelf or Almirah

ix) Eye glasses

x) Shoes



c) Take children out to get acquainted with their surroundings. Collect objects like leaves, pebbles, feathers, stones and ask questions. Encourage them to see variety of vehicles they commonly use or see others using, such as scooter, cycle, bus, car, etc. Also draw their attention to things in their classroom that they use everyday such as fan, light, tables, cupboards, windows, doors, etc.

d) Encourage children to talk about the type of vehicles they see everyday while coming to school and introduce sounds they make such as:

CASE STUDY : 7

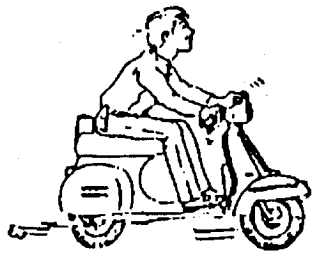
Master R.M., aged 4 years 2 months, Son of Mr.R.S.M. was brought to NIMH with complaints of delayed speech, aggressive behaviour, poor attention and inability to read and write. A comprehensive assessment was done and the boy was diagnosed as a child with Mild Mental Retardation.

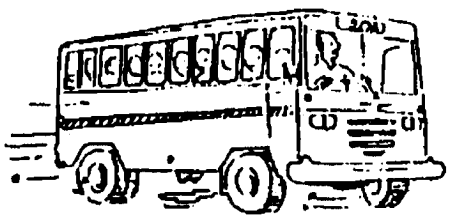
Parents were advised to admit the boy into pre-school and to continue supportive education from NIMH once a week to enhance his daily living skills, communication, academic and social skills. The school teachers were also oriented about the boy's condition and a periodic follow-up was done by the special educator at the school to give information regarding the strategies to be used to teach the boy, his involvement in interaction with his classmates (peer group) and also regarding the boy's performance and evaluation at NIMH. The school teachers were very cooperative and were highly motivated to teach R.M. The boy passed LKG and UKG with 60% marks and I class with 70% marks, all in single attempts. The peer group interaction at school was very effective in enhancing his communication and social skills.

Earlier R.M. was reluctant to go to school, but gradually he began to enjoy going to school and was very excited about his performance which he would show to the parents through his report card. It was also noticed that his other abilities, like interest in music and play have remarkably improved. Parents of the child are very happy at his progress and often show their gratitude to both the school teachers and the special educator. Prior to admitting the boy in the school, parents had apprehension about his suitability to a regular school, but after they have experienced progress, they have decided to stay back at Hyderabad to continue in the same school. Currently he is promoted to II Class and is looking forward to the re-opening of the school after summer vacation.

* * * *

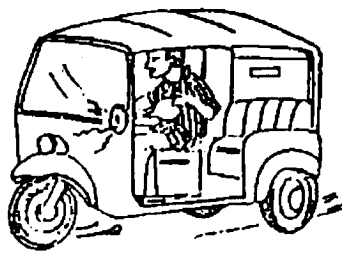
Drrr .....for a Scooter





Bhrrr.....for a Bus

Peem Peem for a Autorickshaw



e) Encourage children to talk about things they see on their way to school.

f) Introduce objects of daily use and talk about how many different shapes they are made of, such as :

(i) Bottle tops, bangles, plates, are all round shaped,

ii) Some tiffin box lid, tray, stool top, seat of a chair are all square shaped,

iii) Select bottles (plastic ones that look similar in shape and design) of big and small sizes and containers that are of big and small in size or boxes that are big and small in sizes. Let them experience various sizes.

iv) Divide playing blocks, paper bits (torn), sand, etc. into 2 containers, with one containing **more** and other containing **less** quantity of ingredients. This will enable the child to compare the quantities of **more** and **less.**

v) Select objects that are heavy and select items of daily use that are light in weight. For **heavy** - objects include sealed container filled with grains, paper weight, glass filled with water, hard-bound book, etc. For **light** - objects use empty sealed container, piece of sponge, empty glass, comic book, etc. Simultaneously let the child hold these objects in both hands and feel the difference in the weight and learn to differentiate heavy from light.

vi) Activities like measuring objects of same kind, but are different in length. Eg. (a) long and short pencils, sticks, scales, threads, etc. Measuring can be done using a ribbon or measuring tape. Let the child note the difference in length.

b) to pour less and more water in 2 same sized containers and learn to differentiate less and more quantity of liquids.

Suggestions for activities at home

a) Family members may encourage the child to name the objects that are used by him/her.

b) Child can also be encouraged to name the objects that others use in the household.

c) Activities for teaching about vehicle can be followed as suggested in school activities.

e) Similar activities can be repeated at home, and all family members can accompany the child, for participating in outings for a short walk, visiting friends casually in neighbourhood or going out to shop for vegetables or fruits.

f) Shapes can be introduced and repeatedly taught at home, using similar objects as suggested in school. Kitchen items are ideal aids for this purpose.

iv) Materials like, rice grains, pulses and groundnuts can be used to teach the concept of **more** and **less** at home. Shirts and pants, towels and other clothings are excellent help for teaching sizes.

v) & vi) Similar activities as suggested in school activities can be taught at home.

2. Creative Activity

Every child has some interest in recreational activities. Interest in recreation activities vary from child to child. Mentally retarded children enjoy recreational activities, when introduced, assisted or initiated by others. This could be done by adults or peers. There is a need to systematise the activity selected for recreation and designed to suit the ability level of the given child. Recreational activities cut across school and home environments. Varied activities can be selected from simple to complex which enable child's creativity, ability to appreciate and involve in recreational activities in their free-time. Free-time management is a sensitive task and it is essential to teach them skills for self-engaging task. However, capable the child may be, first start with total supervision and guidance and then lead to reducing this dependency.

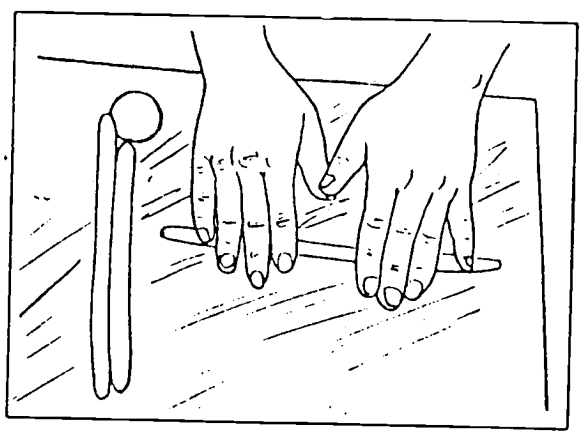
Activity may start with absolute formal approach and then reach a point of spontaneous response. Activities such as, printing can start with mould printing to leaf, string or marble printing. Same is the case with teaching clay activities or colouring activities. Benefits of creative activities are, that they help the child to develop attention, tolerance, improve observation,

imitate, improve fine motor coordination. Whatever may be the nature of creative activity, **level 1** will include activities needing total supervision and avoiding variation but repeating same mode of practice. **Level 2** will allow the child more of freedom to experiment and try out variations under total supervision with choice in practising the activity for varied durations. This is with the assumption that the child will develop tolerance to accept and experiment change in a given activity. Eg. playing with blocks and trying out new structures with slight variation to what has been taught. **Level 3** will allow more freedom in choosing the nature of recreation and also enable child to experiment with materials used.

Level 1

a) Free play with sand - eg. filling plastic containers and pouring out sand from one container to another such as from old plastic mug into a plastic tray.

b) Making simple shapes with clay - such as round shape like a ball, squeezing lump of clay/ rolling the lump of clay with palms of both hands simultaneously.....



Clay Picture

c) Colouring a simple shape such as kite, balloon or ball, using a crayon.

d) Water play is a very interesting activity which can be done by flapping of hands in water, or pouring of water from smaller to larger container.

e) Pasting activity can begin with applying glue on a given piece of paper and sprinkling bits of paper within that area. This can be made more interesting by choosing bits of paper of 2 or 3 different colours.

f) Printing can be an exciting activity where children can dip their stretched palms and fingers on a sponge dabbed in liquid colour, and print them on a paper. Another variation for this could be, to dip finger tips individually and print them on a specified location on a given figure.

g) Fixing of blocks (only 2-3 at time) and then combining more blocks (5-8 together). Shapes like a tower, trains and bridge can be very interesting.

Suggested activities for home

Home conditions are less formal in nature as compared to school setting. Activities therefore can be selected depending upon the availability of material and time. It is suggested that creative activities initially can be instructed or supervised by parents or primary carers, but gradually other family members such as siblings can also join the parents in teaching the activity so that child has the benefit of observing and imitating peers. This pattern of learning would also help the child to develop age appropriate social behaviours. Printing using lady's finger, potato or bitter gourd for instance, can be very beautiful at no cost.

CASE STUDY: 8

Master S.P.R. aged 8 years 2 months, Son of Mr.L.R. was brought to NIMH with complaints of poor memory, delayed developmental milestones, unclear speech, poor academic performance and poor socializing skills. A comprehensive assessment was done and he was diagnosed as a child with Mild Mental Retardation.

Master S.P.R. was attending a regular school since 5 years of age and passed L.K.G. and U.K.G. with average performance. He failed in I Standard. He was reluctant to go to school due to his failure. Parents were advised to continue the boy in the same school alongwith supportive education twice a month at NIMH. School teachers were oriented about the boy's condition which they were not aware of earlier, and strategies to be used to teach were explained. Special emphasis was laid on effectiveness of boy's involvement with classmates (peer group) to improve his social, academic and communication skills. Educational packages and evaluation sheets were given to the teachers once a month to check the boy's progress. The school teachers were very cooperative in implementing the programme and the Principal of the school was very supportive to this approach.

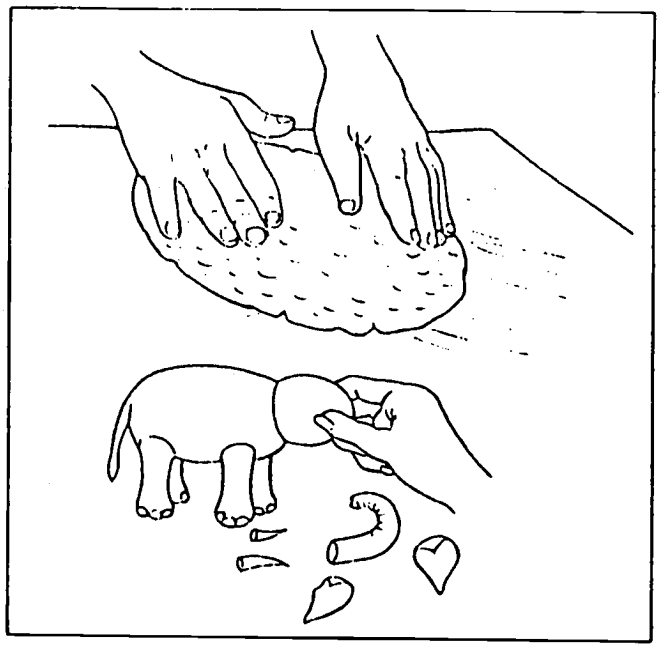
The boy passed I class with 70% marks and was happy about his performance. His interest for music has developed to a great extent and he participates actively with his classmates in art and craft work like making dolls out of clay, and enacting dramas. Parents too are happy with the child's performance. They are in constant touch with the special educator at NIMH and school teachers even during summer vacation to prepare the boy for the II Class, in advance. Master S.P.R. takes pride in telling everyone that he has passed I Class and will be joining II Class after the summer vacation. He cooperates with the mother to prepare himself for the II class even during the summer vacation.

* * * *

Level 2

a. Sand Play: Children can be given moulds or plastic containers with wide opening such as used cream bottles, shampoo bottle lids, plastic glasses or plastic tiffin boxes. Wet the sand a little and encourage the child to fill the sand and press it using the palm. Once the container is filled, invert the opening of the container on a hard surface on ground, plastic tray or on table, and teach the child to pat the outside of the inverted container, before lifting it off the surface, without moving the moulded sand heap. Some practice will be necessary to master the skill of making sand moulds. Hence it is suggested that it should be taken up only when child has ability to comply with instructions.

b. Clay activity: At this level, children can be encouraged to use manipulative skills to experiment making variety of shapes or attempt to assemble parts of a figure by sticking them to the main figure of clay to complete it. Eg. when given a main body of an elephant or a human figure, the child can make shapes of a legs or tail of an elephant and stick it appropriately or stick hands and legs to the human figure.



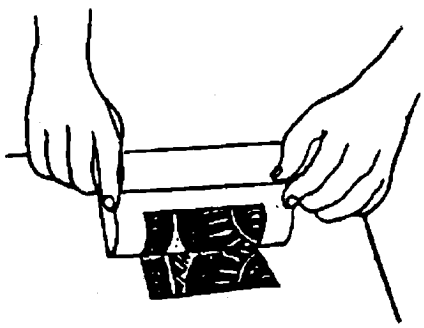
c. Water play: Children can be encouraged to pour water into containers with narrow openings without spilling the liquid. Such activities can also help the child to increase or reduce the flow when the container is nearing its filling point. Children learn to develop better eye-hand coordination and understand basic concepts of measuring. Fine-more coordination also develops when child is taught to pour without spilling.

Another variation to water play could be floating of plastic toys, playing boat game, dissolving and stirring colours by dropping colour crystals into a transparent glass with water and stirring them till it dissolves.

d) Colouring: To encourage child to use wax crayons or colour pencils, to fill figures such as cat, lion, flower, or bus, etc. This is how child is assumed to identify the figures of animals, and vehicles and other objects.

e) Tearing and cutting: With improved fine-motor coordination, child can now be made to use fingers for tearing and use finger control to use scissors for cutting. However, some caution must be maintained to see that the child does not lay hands on all available paper or hurt himself.

f) **Printing:** Here a model of greeting card that has been printed, can be shown using vegetable moulds or leaves of different designs. Child can be asked to try out his/her own combination using given vegetable moulds or leaves to create his/her own design.



g) Blocks of various shapes can be provided alongside a model created by using similar set of blocks. The child can be requested to either recreate similar structure or create their own structure.

Suggested activities for home: All activities listed in level 2 from 'a' to 'g' can be repeated in similar manner. It is suggested that siblings or neighbourhood persons join the child while the child tries working on listed recreational activities. This helps in sustaining child's interest in continuing with the given activity for a longer duration.

Level 3:

a) **Sand play:** Children can be given a theme to work on. Either individually or in group of 2-3 members, the children can recreate a situation such as, road with traffic, zoo with animals, their own house, garden, park or their school. Teachers here can suggest and provide appropriate material to help the child to carry out the activities.

b) **Clay activities:** The clay activities can involve creation of symbols of alphabets and basic numbers if that has already been taught. Three dimensional figures of familiar objects using their imagination can be encouraged.

c) **Water play:** Measurements using 'one' cup, 'one' spoon, 'one' mug and so on are very interesting to children and helps in transfer of class room learning of numbers to daily activities.

- Introduce simple games, where two or more children may be involved. Eg. Games like 'find the twig' 'hide and seek'.

d) **Colouring, cutting and pasting, printing:** Colouring either alphabets/ number cutouts, cutting and pasting of number of objects to its corresponding numerals and printing number and alphabets or words using vegetable printing or rubber stamps are useful activities.

Stories

* Teacher can narrate simple stories to children and explain the theme in the stories. Stories such as:

- The hare and the tortoise.

- The clever crow.

- Who's turn - story of the lion and clever rabbit.

* Picture cards of the sequences in a story can be made and children can be asked to arrange the cards according to the sequences of the story, after listening to the story.

* Description, regarding the event in a particular picture can be enhanced.

* Children can be asked to narrate the story.

* Small skits, plays/dramas can be organised based on the story, where children can enact the characters of the story.

These activities in level 3 develop pre-requisite skills for academic learning. Teacher's imagination and creativity and her involvement of family members in training the child with mental retardation leads to successful integration of such children.

Tips for teachers

* Multisensory involvement is important for children with mental retardation. Therefore, allow them to see, hear, feel, say and do.

* Initially you hold the child and help him perform such as your hand on his hand, to demonstrate tooth brushing, self-feeding, writing, buttoning and so on (physical prompt).

* Gradually withdraw your help and watch him perform with your verbal instruction (verbal prompt) or with your gestures (gestural prompt). Allow a classmate of the child to give the prompts under your supervision.

* Appreciate the child for his every attempt towards the objective.

* Keep reminding him of earlier learnt activities while he is on a new task, as children with mental retardation forget easily.

* Allow opportunities to perform learnt tasks in varied environments to generalise the learnt task.

* Imitation learning is a strong characteristic in these children. Provide ample chances for imitating the teachers and peers.

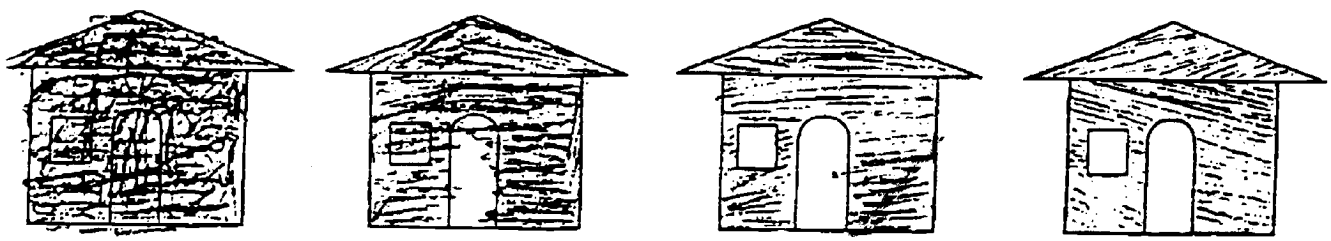
* In preschool years as the abstract and symbolic learning is limited, children with mental retardation benefit when integrated with normal children.

* All the reading, writing and arithmetic readiness activities can be introduced as for normal children. However, the teacher's **attention and repeated instructions are essential for a child with mental retardation.**

* Seat the child in such a way in the class that the teacher has an easy access to him/her.

* When you see signs of fatigue, or signs of getting distracted/losing attention, change activity to sustain attention.

* Do not be disheartened by his slow learning ability. Remember he is progressing at his own pace.



SPECIFIC LEARNING DISABILITIES

There are some children in our schools who seem to be doing everything age appropriately and parents do not find any problem with the child. However, when the schooling begins, the difficulties come to the notice of the teachers and parents. Such difficulties are basically academics related. As formal education begins at around 5 years of age, the problems do not get noted by the parents. Some of the characteristics of such children include:

* difficulty in expressing oneself.

* difficulty in attention/concentration.

* difficulty in following directions.

* poor play ground skills.

* difficulty in learning to read.

* difficulty in learning simple tasks.

* mixing the order of letters or numbers while writing.

* reversal/omission/addition/substitution of letters or numbers consistently.

* clumsy movements.

* continue to seem restless/hyperactive.

* socialization difficulties.

Such children are referred to as children with specific learning disabilities. The other terms used are specific learning difficulties, dyslexia, perceptual difficulties or children with minimum brain dysfunction.

These are children who have difficulty in listening, thinking, speaking, reading, writing and doing mathematical calculations. Their problem may be in one or more of the above processes which is **not** a result of blindness, deafness, mental retardation, cerebral palsy and other motor disabilities.

It is also not due to socio, cultural, economic, linguistic and emotional problem in the child. When all these conditions are normal and if the child tends to perform poorly in one or more of academic areas, he is likely to be a child with specific learning disabilities. About 4% of the population are estimated to be affected by these problems. Family history of similar difficulties are also noted in many cases.

It is difficult to identify these children very early in life as academic learning does not begin them. However, the teacher may find certain characteristics such as short attention, inability to complete an activity, clumsy performance of physical activities, distractibility, confusion of right and left and lack of clarity in speech.

These children generally have average or above average intelligence, but they have specific problem in perception and processing of information.

How to help?

* Do not call them stupid or lazy.

* Do not be in a hurry to lable them. Lables are difficult to remove later.

* Highlight their abilities and appreciate them.

* Carefully observe and locate the specific problem so that correction can be planned.

* Take assistance of specialist when a learning problem is consistent.

* Use multisensorial approach to teach these children.

* Identify their area of interest and assist them to develop those areas.

* Refer for detailed assessment and specific programming.

Suggested Activities

1. Encourage singing of nursery rhymes, poems and songs with action. This improves motor coordination, language development and social interaction.

2. Activities associated wtih water play and sand play improve creativity, imagination and motor coordination.

3. Story telling with dramatization improve social skills, comprehension, language and attention.

4. Have a variety of activities lined up and provide frequent changes in activities without changing the objective so that attention can be sustained well. For instance, if colour concept is the objective, have matching/sorting activities with one object (blocks/beads) for a short time and change to another set of objects such as flowers, ribbons, etc. for matching colours. By this the attention of the child is sustained and objective of sorting colour is not changed.

5. Mime rhymes or stories and ask the child to guess. Allow them to mime and ask others to guess.

6. Have conversation classes with pictures. Encourage them to describe. Ask queries related to the pictures that require answers from the students, such as 'before-after, under-over, up-down, many-few, big-small, thick-thin, tall-short, fat-thin and far-near and so on. For instance, a picture of a busy railway station can be shown and questions like 'Does..... have 'many' luggage or 'few' luggage. What is 'on' porter's head? The baggages on.....are big or small? How does the train look? Long or short and so on.

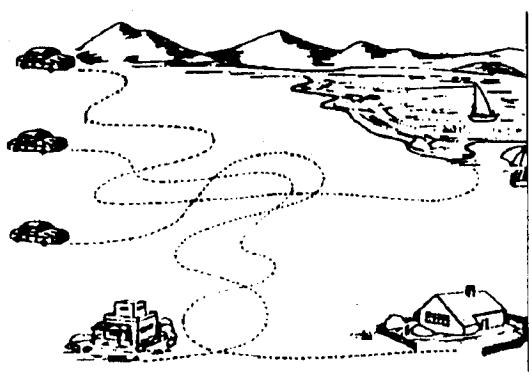
7. Games such as dominoes and matching card are good activities for taking turns, understanding rules and improving concentration and memory.

8. Television has the advantage of multisensory input with movement on screen which helps easy understanding of complex facts.

9. Involvement in household activites - bring vegetables for cutting/pealing, arranging plates and cups on table, help learning pre-number concepts.

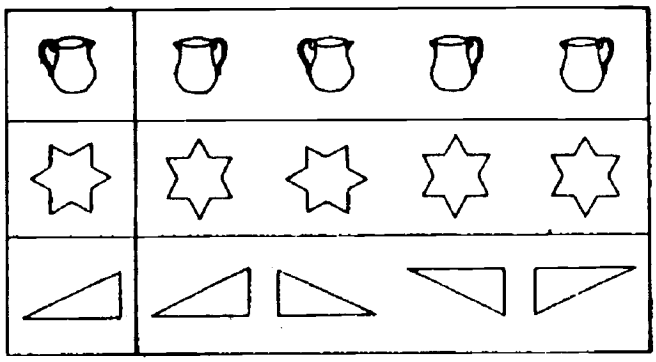
10. Simple puzzles and puzzle books are good for motor coordination and problem solving.

11. Activities such as 'identify sounds' - vehicle driving, waterfalls, phone ringing, clock ticking, door bell, thunder, rain, etc. recorded in audio cassettes are good auditory discrimination activities.



'trace the cars to their houses'

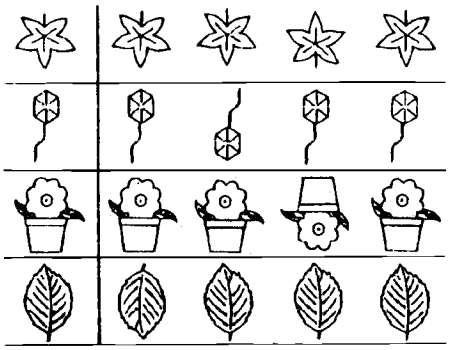
12. Activities for following instruction in the form of games are good for readiness and memory skills for all children. Start with one instruction at a time such as 'come here'. Increase the number fo commands gradually such as 'pick up this paper, put it in the trash can, close the door and switch on light'.



'find a similar one'

13. Clap a simple rhythm - let the child repeat.

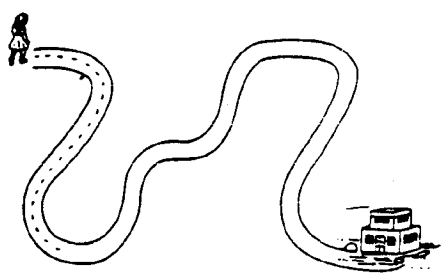
14. Tell a word - ask for rhyming words 'what rhymes with rain.....?' Train, plain, chain, drain, brain and so on. Start with easy sounds and go to difficult ones.



find the odd one

15. Give activities for tracing shapes and forms with fingers. Provide puzzles for completion - start with two pieces and gradually increase.

16. For body awareness use rhymes of body parts, and activities such as close your eyes and touch nose, stomach, chest, knees, feet, etc.



trace your way home

17. For pre-writing as for other disabilities, colouring within lines with vertical/horizontal, diagonal and curved strokes are interesting activities.

18. Give ample picture books/magazines and simply allow children to go through from beginning to end and describe whatever he wants.

19. Encourage activities to talk about opposites - fat-thin, tall-short, far-near, white-black, cold-hot, rough-smooth and so on.

Look for any '**sparks fo brightness**' and talent in the child and consistently support and encourage in improving the talent he has.

Make conscious efforts to keep yourself informed about specific learning disabilities as it is an upcoming field with fast developments. **Such children will continue in regular schools with certain examination provisions made in secondary schools and hence teachers in regular schools should be aware of progress in this area.**