Special Education

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Scope:

6.1 Education for Disabled & Differently abled people.

Have you noticed the students with disability / physically challenged during training in the class room?

These children need a special method of teaching. List out the methods adopted in the class room for these children after discussing it with the teacher. Begin the lesson after a thorough discussion based on the report prepared by the trainees.

Introduction:

Education is the fundamental right of every child. Sufficient opportunities should be provided to the child in education. Based on this, Educational opportunities for special children are also stressed in our country.

Swami Vivekananda emphasizes “If special children are unable to move towards education, The education should go towards them”.

So Government of India has taken various steps for the education of handicapped children. As per the Indian constitution section 45; Children between the age of 5 to 14 are to be provided education, including handicapped children without disparity. The Kothari Education Commission report 1964-1966 recommends full opportunities in admissions for handicapped children.

The aim is to prepare children to face the future challenges in life with determination and self- confidence. By providing facilities to the special children they will be treated equally and integrated in the society like normal children.

Education for the Disabled / physically challenged through special school:

Specially trained teachers provide education to the physically handicapped children in the special schools.
Integrated Education for disabled:

Integrated education is designed to teach to both the normal children and the handicapped in the same class room. Specially trained teacher, serving as resource person help the class teachers to prepare the resource room with the specially designed teaching learning material, to fulfill the learning process. Resource room is separately established in the school. In this way Integrated education function as a part of a school.

Inclusive Education (what is inclusive education?)

The school teachers are trained through in-service training programme to monitor, handle and teach the handicapped children of both sexes along with the normal children. The specially trained teacher for handicapped children guide the school teachers, if necessary. In this system, all the handicapped children are admitted in the regular schools. If they are unable to attend the regular schools due to severity, the teacher guides the children to special schools.

Statistical data of the Children (Differently abled Children)

It is very difficult to assess the accurate number of these children. According to 2001, National census of India there are 21.0 million handicapped people. Of which 12.6 millions are men and 9.3 are women. The school going children(5-14years) are 3.4 million. Education for the 3.4 million children under the special schools became impossible. So the system of inclusive education in the schools help the handicapped children.

Presently in the school curriculum the teaching learning techniques have been modified to bring out the desirable behavioral changes among the special children. The approaches, hindrances, and solutions for the problem and the various educational facilities are discussed in the following units. The disabled and the handicapped children are called as ‘Differently abled Children’.

6.2 (LEARNING DISABILITY)

Introduction

Some children lag behind in their academic performances though they do not have any physical or mental disabilities. This causes a grave concern to the parents because the children speak well, playwell and very active. These types of students pose a great challenge to the teachers to develop their learning skills.
Learning Disability:

Some children possess less language skill. Even though they are normal children, the skill of reading, writing, and basic number skills are inadequate.

Definition of Disabled Persons:

The term ‘Learning Disability’ is defined by many people in different ways. None of them is universally accepted. According to U.S. National Advisory Committee on handicapped children 1977, one or more psychological processes of the child affect the listening skill, memory, speaking, reading, writing, numerical ability and perception that develops disabilities. Vision, Hearing, Emotional disturbances, Social influence, Unfavourable Socio-economical disturbances also causes disabilities. This should not be classified under ‘Learning Disabilities’. In short, children from good background, found with severe deficiency in the skill of writing, reading, speaking, numerical ability can be treated under ‘Learning Disability’.

6.2.1 Identification of learning disability:

Children with learning disability score average marks in I.Q. test (Intelligent Quotient Test). Having no physical disabilities and having good family and economically background, these children found lacking in one or more learning activities like Writing, speaking, reading and calculations. As a first step the I.Q. test should be administered to identify them. Then an achievement test is to be conducted. When there is a vast difference between the I.Q. test and Achievement test, these children can be called as ‘Learning Disability’ children.

The students behaviour with co-students, activities in other subjects, their deficiency in Writing, Reading, Speaking and Calculation skill also can be identified in consultation with the teachers.

So, I.Q. test & Achievement test helps us to identify the ‘Learning Disability’ Children.

6.2.2 Symptoms of Identifying the Learning Disability among the learners.

(1) Short Term Concentration.
(2) Doing things without realizing its consequences.
(3) Attitude to stop the initiated activities.
(4) Disturbing others.
(5) Deficiency in social skills.
(6) Non-adjustability with co-learners.
(7) Selfishness.
(8) Nail-biting, bed wetting.
(9) Inferiority complex.
(10) Blaming tendency.

6.2.3: Types of Learning Disabilities.

It is found that there are more than 30 types of learning disabilities. Problems related to each disability is classified. In these, a few learning disabilities are presented for our study. Learning Disabilities are classified into two types. They are Learning (Academic) skill disabilities and Loss of attention.

Learning (Academic) skill deficiency:

These children do not attain the sufficient skills in spite of providing the learning environment. They have:

1. Problems in reading.
2. Problems in writing.
3. Problems in calculation.

Problems in Reading (DYSLEXIA)

<table>
<thead>
<tr>
<th>TYPES</th>
<th>Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>Difficulties in Reading.</td>
<td>Bat-Pat Net-Ten</td>
</tr>
<tr>
<td>Reading with Mistakes.</td>
<td>I goes to school (Wrong)</td>
</tr>
<tr>
<td></td>
<td>I go to school (correct)</td>
</tr>
<tr>
<td>Read the words in reverse order.</td>
<td>b-d m-n</td>
</tr>
<tr>
<td></td>
<td>was-saw girl-gril</td>
</tr>
<tr>
<td>Reading again and again.</td>
<td>How many houses are there near by?</td>
</tr>
<tr>
<td></td>
<td>Repetition of the word ‘near by’ again and again.</td>
</tr>
<tr>
<td>Leave or add words while reading.</td>
<td>It is a pen- It is pen.</td>
</tr>
<tr>
<td></td>
<td>My mother’s name- My mother name.</td>
</tr>
<tr>
<td>Identify the letters of a word, but unable to read the group of letters of a word.</td>
<td>Books-busk.</td>
</tr>
<tr>
<td></td>
<td>Lux – lusk.</td>
</tr>
</tbody>
</table>

Meaning of DYSLEXIA:

DYSLEXIA is originated from Greek language. ‘DYS’ means ‘Difficulty’ ‘LEXIA’ means ‘The problems related to Language’. It means children with “very less language skills or unable to attain the basic language skills”. Especially it refers to the deficiency in studying or reading.
This problem is related to nervous system. Dyslexia children are not mentally affected people and not slow learners too. Dyslexia is not a disease. It can be cured if proper care is given by the teachers and parents.

Dyslexia is caused due to shock during delivery, accidents, medicines for epilepsy.

**Dyslexia**

These are the famous personalities affected by Dyslexia.

1. Agatha chirsty (Famous Detective novel writer)
2. Eienstein (Relativity theory)
3. Leonardo Da Vinci (World renowned Painter of ‘Mono Lisa’).
5. Winston Churchill (Prime minister of Britain during World war).

Dyslexia children should be identified and with the help of teachers, these children are to be trained to become ‘achievers’ in the society.

**6.2.4 Problem solving approaches in “Reading Skills”**.

1. While teaching a content the ‘Learning activities’ should be based on ‘Five senses’. In this method, Models, Display charts, Letters and Numbers of flash cards are used.
2. ‘Do’s of a teacher while teaching the ‘Letters’.
   - Say the letter aloud.
   - Write the letter properly.
   - Make them write on the Written letter.
   - Writing by seeing.
   - Writing without seeing (In this method make hem learn ten new letters, using these letters make them form new words and read it)
3. Correct Pronunciation should be given while teaching a letter.
4. The teacher should read aloud; Then the students should repeat.
5. Make them read the letters by using fingers.
6. Record their Voices while reading and listen to the errors in reading.

**Problems in writing skill (DYSGRAPHIA)**

- To leave more space or very less space in between words.
- Mixing of capital and small letters in words.
- Unable to write the proper shapes of letters.
Lecture Notes on Special Education

- Over – Writing.
- Copying Correctly but Writing Wrongly in ‘Dictation’.
- Dropping letters in a word or add new letters or change the words.

**DYSGRAPHIA:**

In an ordinary classroom many children commit mistakes in writing letters. They are unable to read their own scripts. So, they lack fluency in writing. This deficiency in writing is known as Dysgraphia.

“Approaches in revolving writing problems”.

1. Practice the students to draw different types of lines. Hand movements are practised. Students are trained in dotted papers to draw different shapes like upward, downward, circle & square.
2. Train the learners in Cursive note books to write on the letters & copy the letters. Sufficient practice is given till they attain mastery in correct shape.
3. Practice to write words without errors.

**Confusion in calculation- Dyscalculia**

Inability to know the value of numbers, and to solve problems and Confusion in the use of numbers by the children is defined as Dyscalculia.

Example:

- To write 63 instead of 36
- To write addition (+) instead of multiplication (*) 3+6= 18
  Unable to differentiate between 6 and 9.

**Activity:1** List of students with learning Disabilities in the school children

**Activity:2** Group discussion to eradicate the learning disabilities.

**Activity:3** Present your personal views on “Learning Disability”.

**6.2.5 Approaches in Teaching to the Learning Disability Students**

- Learning activities should stimulate the interest and thinking of the pupils.
- Similar letters, words, numbers should not be taught at the same time.
- Continuous interesting activities should be provided to the learners.
- Each and every Learning activity should end in short term.
- Provide Learning experiences through visual aids.
Correct answers are to be awarded & appreciated.
- Flexibility in teaching curriculum.
- Activities to increase ‘Span of attention’.
- The progress of the learner is evaluated.
- Follow up work is given in content areas.
- The content is subdivided into smaller segments for learning.
- Short notes are provided.
- Use of picture and charts in teaching.
- Reinforcement is done by questioning and reading.
- Adapt ‘Teaching Learning Methods’ with the guidance of the expert teachers.
- “Individual instruction” to the learning disabled children by the teacher.

Conclusion:

The educational needs of the children with learning disabilities should be fulfilled in a normal classroom surroundings. If any Resource room is available, it should be fully utilized by the children.

Creating a separate resource room and segregating them from normal classroom should be changed. An Integrated educational system is to be developed. If there is joyful learning, Learning improves. Accepting the disabled children and their individual differences, the teachers should guide them. To attain a new world order (Integrated educational system), the ignorance of the society and of the parents should be eliminated.

6.2.6. List of achievers with “Learning Disability”.

- Winston churchill.
- Walt Disney.
- Edison.
- Albert Einstein.
- Goya.
- Alexander Graham Bell.
- Stephen Hawking.
- Milton.
- George Patton.
- Nelson Rockefeller.
6.3 Education for Physically Handicapped:

In this modern world, all attempts are being made for the physically handicapped children to provide education without hurting them physically or mentally for a happy life. One of these attempts is Education for special children.

Educationists use various words like impairment, disability & Handicap to convey a same meaning. It is to be realized that, there is difference between these words.

**Impairment:**

Impairment is the loss of an organ or the defect in structure and function of the organs of a person. This defect may be temporary or permanent.

**Disability**

The inability of a person in his actions or activities to live as a normal person.

**Handicap**

Handicap is a barrier. The disability of a person to carry out his daily activities is called as Handicap. Due to this reason, he does not lead a life like a normal person in his surroundings and society. When the development (physical or mental) of a person is completely affected, then it is called Handicap. Impairment, Disability and Handicap are different words, but the words have some relationship.

**Types of Handicap:**

According to the Parliament Act of Dec. 22, 1995 in the Loksabha & the Rajyasabha Handicap is defined as follows;

1. Totally Blind.
2. Low vision.
3. Hearing Impairment.
4. Mental Retardation.
5. Orthopedic Disabilities.
Physically Handicapped children:

Human beings possess many talents physically and mentally to live happily in this world. We live happily by using those talents. But, among us so many people are affected for many reasons in their life. This causes handicap both mentally and physically. In English it is called mentally impaired and Physically disabled.

If any part of our body becomes inactivated, it is called physically handicapped. This handicap disturbs a child to display his/her talents. For example, A school-going child is unable to participate in any activity either at home or in the society.

Physically handicapped are classified on the basis of their impairment. For example, if there is a leg or hand becomes inactive, then it is called physically handicapped.

If a person has vision problem in Eyes, then we call him as ‘Blind’ person. Likewise If a person has problem in ears or speech organs then we call him as Deaf and Dumb person.

6.4. HEARING IMPAIRMENT:

Introduction:

Among the five sense organs. Ear is not only responsible for tactile sensation but also paves way for awareness in the environment. Also it helps to learn a language and the skill of speaking it. When one loses his hearing capacity he is unable to adjust & face problems in the society.

Hearing is defined as the reception of the environmental sound, Knowing the properties of the sound & by whom it has been made.

Defect in listening and understanding the conversations is called listening disability.

It affects the natural growth of the children and behaviour. Especially it affects hearing, speaking and understanding abilities.

Hearing impaired children face more difficulty in hearing, speaking and communicating with others. These children have less speaking skills.

Types of Hearing Impairment:

Hearing impairment has three types. They are,

- Conductive loss happens in the External ears.
- Sensory neural hearing loss, It happens due to the defects in the nerves, Ear drums and bones abbration in the internal ear.
• Mixed hearing loss is a combination of conductive and sensory neural hearing loss.

The defects occur in Internal and external ears.

Audiometer is used to identify these types of defects. This type of measuring is called Audiogram. The unit of sound is mentioned as Decibel (db).

6.4.1 Symptoms of Hearing Impairment.

• Non-response (shock) of the child for loud clapping within 3 feet.
• Unable to turn towards the direction of the sound.
• Delay in understanding.
• Insist the teacher to repeat the taught units.
• Keen observation of the facial expressions of teacher, while talking.
• Very low level skills in Listening and Understanding.
• More stammering while speaking and very poor in reading.
• “Bend head “ to listen to the side of speakers.
• Differences in voice sound and pronunciation.
• Non-responding while calling.
• Disinterested in listening to stories.
• Leakage of puss from ears.
• Seek others help when teacher dictates in the class.

6.4.2. Reasons for Hearing Impairment :

1. Genetical factors (Related to Genes)
2. Non Genetical factors (unrelated to Genes)

Genetical factors.

**Warden perk Syndrome**: One who has this syndrome should marry another person with this syndrome to deliver a normal child without this hearing impairment. Otherwise there are more chances for the birth of hearing impaired babies.

- Close relationship marriage.
- Genetic defects.
- Genes Aberrations.
NON-GENETICAL FACTORS (Unrelated to Genes)

- Chicken Pox
- High fever eg. Flu fever, Dengue fever.
- Inflammation in inner ear during accident.
- Defects in the ear-brain nerves.
- Brain injury disturbing the growth of language skill.
- Exposure to loud noise.
- Nerves problem in old age.
- Jaundice during pregnancy.

6.4.3 Hearing devices for Hearing Impaired children.

- Horn, Calling bell, Flute, Drum.
- World map and Globe.
- Cartoons.
- Colour Pictures.
- Hearing Aids, Materials.
- Computer software.
- Mirror.
- Speech Box.
- Music dolls.
- Audiometer.
- Text to speech.
- Audio Books.
- Individual hearing devices & group hearing devices.

6.4.4 Ways of attaining success for Hearing Impaired Persons:

Identify the hearing impaired in the early childhood and provide suitable hearing aids. Practise them to observe the various sounds in their surroundings.

Hearing impaired people can lead a normal life in the society. This idea is to be developed among the teachers & parents. Engage the parents in activities that increase the speaking skill of the hearing impaired students.
Creating awareness among the parents and people & enable them to think, that they can also lead a normal life like the other children of their age. Special attention to those children by the teachers. The specially trained teachers is necessary.

6.4.5. THOMAS ALVA EDISON

He was born on 11\textsuperscript{th} February 1847 in Milan in America. He was expelled out from school because he was considered as a mentally retarded child. His mother after her retirement taught him at home. Being independent by nature, he started selling news papers and sweets in the railway station & earned money. He purchased some materials for his experiments. He has lost his hearing capacity in a train accident when he went to study. But he continued his research, relentlessly. He invented many new kinds of instruments to send telegrams. His new experiments and inventions helped him to overcome poverty and established a laboratory also.

He invented electric bulb in 1878. In the same year he invented Gramaphone. Remington type writer and Mimiyoh graph were invented in 1887. Then he invented Printing machine and microphone.

Inspite of his being deaf, he relentlessly struggled to invent many things for mankind. He is a model for the other learners with disability to achieve success in life.

6.5 Speech Impairment

Of all the species on Earth, mankind is superior in Nature because of his skill of speech. It is rather a gift to mankind. A baby begins the language by uttering some sounds in an unclear manner. Then it starts to uttering small syllables, words, phrases, sentences and finally attain the skill of conversation. The sound, word and the sentence structure makes the speech skill effective. In order to develop this skill, the skill of listening becomes extremely essential. The speech skill is affected among the hearing impaired children.

The controlled movement of the speech organs like mouth, tongue, throat, jaw, trachea, Vocal cards, hard & soft palate, produce different types of sounds. If there is a defect in any of the speech organs, the speaker fails to utter the words appropriately. This deficiency is known as speech impairment.

We may come across these types of children in the classroom. Mostly they go unnoticed in the eyes of the teacher. While speaking, these children fail to spell some
alphabets, words and phrases. They stammer in speaking sentences. Their speech is incoherent & sometimes inordinate delay occurs in their speech. The teachers and the parents must identify this impairment among the children at the earlier stage and take necessary measures.

6.5.1 Causes for speech Impairment:

- Insufficient brain growth.
- Incomplete growth of inner ear organs.
- Uncontrollable movements in the speech organs.
- Multi language speaking environment.
- Shyness and fear.
- Inability to understand language sounds.
- Cleft in lips.
- Thick tongue
- Stammering.
- Knowledge of a few Vocabulary.
- Delay in the growth of Speech activity.
- Prattling.

6.5.2 Symptoms of Speech Impairment.

1. Difficulty in speaking continuously.
2. Inordinate delay in speaking a word.
3. People with speech impairment give unnecessary stress in the syllable while speaking.
4. They are always in the grip of fear and tension.

6.5.3 Types of speech Impairment.

The defects noticed among the hearing impaired and the speech impaired children can be classified as follows:

1. Defects in Articulation
   a. Addition.
   b. Distraction.
   c. Substitution.
   d. Skipping of sounds.
2. Defects in voice
   a. Lowering/Raising of voice.
   b. Tone
   c. Stress.

3. Defects in fluency
   a. Stammering / stuttering
   b. Cluttering
   c. Fear.

I. Defects in articulation

   Children with cleft lips struggle to speak properly. These defects are curable and can be treated medically. The brain has many speech integrating centres. Any damage in any of these centres may cause impairment. This is known as Disarthria.

Normally, the defects among the Hearing impaired can be divided into following categories.

   a. Addition.
   b. Distraction.
   c. Substitution.
   d. Skipping of sounds.

A) Addition:

   While speaking they add extra alphabetic sounds which changes the original meaning of the word. Eg. car-scar.

B) Distraction:

   These children fail to pronounce the correct sounds of a word. They produce different sounds as they wish. This is very difficult to be corrected. Eg: station-tation.

C) Substitution:

   In the case of pronunciation, some children replace the alphabet in a word with some other. Tiffin - tiffen.

D) Skipping of alphabets in a word:

   Some children delete the alphabets or syllable of a word in their speech. Exercise- excise.
II. Defects in voice.

In case of any defect in the speech organ like vocal card or if the speech organ remains unused, defects in voice occur.

A) Voice prosody - High/Low pitch.

The tone’s density, power, nature, are the three important factors for a good voice. The high/low pitch of the voice is decided by the movement of air passing through the speech organs.

B) Prosody.

Some hearing impaired persons always speak in high pitch. This problem can be rectified through tactile sense and by ball technique. (throwing the ball up & down).

C) Stress (prosody)

In normal speech, some sounds are unnecessarily overstressed.

III. Defects in speech fluency.

A) Stammering

In speech, Fluency, style and prosody are important in speech. Stammering is due to a break in the fluency. Repetition of a same word and prolonged uttering of a word takes place in stammering.

• Nature of stammering:
  Struggling to start the speech, unnecessary repetition of same sounds, hesitancy and prolongation of few sounds.

• Causes for stammering:
  Psychological barriers, unsteadiness and mal functioning of nerve system cause stammering among children.

• Cluttering:
  Absence of pause while speaking and very fast speaking are the causes for cluttering.

• Fear
  Excess fear is one of the reasons which disturbs fluency in speech.
6.5.4 Hindrances in learning.

- Difficulty in expressing the teachers’ concepts.
- Hindrances in reading lessons.
- Unable to read lessons in a stipulated time.
- Wrong use of syllables (Stressed/unstressed) in speaking.
- Listeners are unable to comprehend these children’s speech due to their prolonged spell of words and inordinate delay in speaking.
- The voice/tone of the child is spoiled by constant stammering.

6.5.5 The role of parents

- Parents should motivate the children to converse with them in simple sentences without grammatical errors.
- Information and communication technology (ICT) is to be used as a model to develop their speech.
- Parents should follow the recommendations of the speech specialists for their children.
- Children must undergo medical treatment regularly.
- Provide speech therapy as per the advice of the speech specialists.
- Help the children to be courageous.

6.5.6 Training in pronunciation.

1) Simple sounds of the alphabets and words are introduced. Adequate training is given to spell the sounds correctly.
2) From easy to difficult sounds of words, phrases are taught. Train the children to use apt words, phrases and sentences in their speech.
3) The alphabetic sounds are recorded in a tape recorder. Visual aids like computer, T.V. can be used for correct pronunciation. The speech organs are also trained under the supervision of the teacher.
4) Child oriented topics are presented to the children in the form of dialogue, conversation and seminars. With the help of educational tools, these children are trained to speak the same with correct pronunciation.
6.6 VISUAL IMPAIRMENT:

Motivational Activity:

Have you noticed visually impaired students in your school during the internship period? You would have listed different types of visually impaired students. In consultation with the co-trainers, prepare a report on the nature of visually impairment, its causes, psychological problems and the teaching strategies adapted by the teacher for these children. The teacher begins the lesson after a discussion on the report.

Introduction:

The physical condition of a child which completely prevents his/her participation in childhood activities either socially or professionally or in entertainment aspects, is known as Inability Deficiency. The child is emotionally affected. Further, the child is unable to cope with the society and their peer groups. No man is without defects in this world. Mostly the defects can be rectified or compensated. Therefore, our primary duty is to identify the impairment in children (body/mind). According to the impairment in children, we will be able to educate them.

Senses are the only way to achieve intelligence. In our five senses, the vision (seeing) skill is very special because we are able to see the activities in our surroundings using our eyes. The knowledge we gain by seeing (vision) is hundred times greater than the description (of person, place or things) in words. There is no equivalent for visual experiences. But the blind children are unable to witness the activities in their surroundings. For the benefit of the blind children, efforts are taken to fulfill their needs, to provide treatment and upgrade their education.

6.6.1 Types of Visual Impairment:

1. Low vision
2. Total Blindness

1. Low Vision: The children with low vision learn with their residual vision using audio and visual equipments.

2. Total Blindness: Totally blind people learn with the help of Braille Letters, Audio Equipments and tactile method.
Visual Impairment:

Eye diseases, accident and defect by birth are the causes for visual impairment. They have less visual ability. Some visual defects can be cured by treatment.

6.6.2 Reasons for visual Impairment:

- Cataract
- Vitamin A deficiency
- Trachoma
- Small
- Accident
- Hereditary disease
- Malnutrition
- Brain Tumor
- Diabetes in childhood

6.6.3 PROBLEMS FACED BY THE CHILDREN WITH VISUAL IMPAIRMENT IN THE CLASSROOM

Learning environment plays a vital role in effective learning. Learning environment includes teachers, students and methods of learning. Learning Environment includes not only classroom but also laboratory, playground, library and educational tour. The above mentioned visually impaired children will face hindrances in these learning environments. The classroom hindrances faced by these children are listed below.

1. Letters on the blackboard are either partly visible or fully invisible.
2. The students with visual impairment will have problems in reading the words on the blackboard and in books, due to light failure in the rainy reason or some other reasons.
3. The students find it difficult in doing science experiments in the lab and in identification of different colors.
4. The students with visual impairment are unable to perform on par with the other students in Drawing and S.U.P.W.
5. Problems in collecting data from photos and maps.
6. Visual based subjects like geometry possess a great problem in answering the questions in the examination.
7. The children with total blindness have to read the normal lessons along with the Braille system. This causes depression.

8. Due to variation in the individual’s visual impairment these children can not work together in one activity.

9. The students with visual impairment should be seated only in first bench or else they cannot be able to see the blackboard or the teachers clearly.

10. These students will find difficult in reading and writing in dim light and in bright light.

11. While reading continuously, they drop few lines.

12. Continuous and rapid writing is not possible.

13. Spelling mistakes are done in reading and writing.


15. Hindrance in reading manuscripts.

16. When the background color and printed words are the same, these students will find it difficult to read.

17. Difficulty in completing or delay in submitting the teacher’s homework or assignments.

18. Inability to walk in dim light.

19. Difficulty in differentiating the shapes of objects.

20. Difficulty in identifying rumbles in the school route.

21. Facing difficulties in reading and writing the lessons fast.

22. Tiredness in the eyes while reading.

23. Difficulties in reading small letters.

6.6.4 Teacher’s Approaches to eliminate the Visual defects:

1. The children should be made to sit in first row

2. Light should not be directly focused on them.

3. They should be given felt pen or sketch pen or marker pen while writing.

4. Contrasting colours and bold letters are essential in the teaching learning material.

5. While writing on the board, the teacher reads it.

6. Constant listening to the recorded words and phrases.

7. Clay models are used in teaching.

8. Abacus and Taylor Frame instruments are used to teach Maths.

9. Distribution of enlarged Xerox copies of scripts to the students with low vision.
11. Tactile based pictures are used to teach science and social science
12. Teaching through tactile sense, hearing sense, skill of taste and smell are mostly used.

6.6.5 Instruments for Visually Impaired:
- Braille slates and styles
- Braille machine
- Abacus
- Taylor Frame
- Cassette Recorder
- Magnifier
- Embossed Diagram
- Reading Book stand
- Typoscope
- Relieve sheet
- Long cane
- Braille text book
- Rattle ball
- Magnetic Chess

6.7. ORTHOPAEDIC IMPAIRMENT

Introduction.

School going children are generally classified as average, below average and above average students. But some children differ from others mentally, physically, psychologically and in learning level. These disabled children or differently abled need protection and love like other normal children. As they are psychologically affected there is a decrease in their adjustability with others in the society.

They do not involve themselves in learning as the idea of ‘Differently abled’ is strongly present in their minds. So their learning competencies are low and they need special attention in education.

Inability is defined as inefficiency to perform or defect which hinders man’s natural activities in life. This may be temporary, permanent, changeable, unchangeable or increasing inability.
Orthopaedic Impairment:

<table>
<thead>
<tr>
<th>Nerve Impairment</th>
<th>Impairment in Bones &amp; Muscles</th>
<th>Birth Impairment</th>
<th>Impairment by accidents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cerebral palsy (stroke)</td>
<td>Muscle Paralysis</td>
<td>Loss of growth in hands &amp; legs</td>
<td>Loss of leg or hands.</td>
</tr>
<tr>
<td>Fits Backbone Cleft</td>
<td>Loss of bone growth</td>
<td>Flat feet, Knock Knees &amp; Bow legs</td>
<td>Burns</td>
</tr>
<tr>
<td>Polio</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

6.7.1 Orthopaedic Impairment- Definition.

The activity of a child is disturbed by physical or mental impairment. The Disability is caused either naturally or by birth or damage in body organs. It may be complete or partial disability. This impairment does not end in ‘Handicapped’.

According to World Health Organisation, Disability and Handicapped are different from each other ‘Inability’ takes place in mind and body. This is identifiable and measurable. But Handicapped hinders the performance of action. It affects the activities and competencies of an individual. The differences can be understood from the following points.

- ‘Handicapped’ is a loss of an activity or decreased skill in performing an activity.
- It is measured by the loss of an activity in a person or the loss of skill in performing the activity.
- Loss of an activity skill is based on a specific disability or the effect of a disease at a particular period. The loss of skill happens due to failure of precautionary measures and failure to adopt to the situation.
- To adapt oneself according to the situation depends upon one’s education, knowledge and the stimulation given to him.

Orthopaedic impairment is caused when bones, muscles and joints are affected. This affects the free movement of hands & legs. They possess less skills in the use of legs & hand. But this does not affect their knowledge or learning skill. So there is no hindrance in their learning ability.
6.7.2 Identification of Orthopaedic Impairment

Diseases, unnatural body organs causing skill deficiency and other symptoms help to identify the orthopaedic impairments. This should be identified not only by doctors but also by parents and teachers. Provisions should be made to the impaired child for immediate treatment. They are as follows.

**Brain Paralysis.**

Excess tightness in body muscles, delay in body growth, inability to walk or stand due to bent hands and legs and total dependance on others for their needs.

**Fits:**

Uncontrollable movement of hands and legs and unconsciousness.

**Polio:**

Polio attacked children’s hands and legs are thin.

**Muscle-Paralysis.**

Here the body muscles become lose from bottom to top.

**Flat leg:**

Leg without curve at the bottom between toe and heel. Pain at the bottom of the foot.

**Knock knees & bow legs.**

Bent bones in legs are seen. To walk with folded feet.

**Deficiency in bone growth:**

Loss of growth in bones causes swelling and severe pain.

**Deficiency of growth in bones by birth:**

Inability to perform any activity due to deficiency in bone growth by birth.

**Accident:**

Loss of organs like hands or legs in accidents causes inability to fulfill personal needs.

**Other common Symptoms:**

- Non cooperation of body organs with its movements;
- Limping and Tripping.
- Pain in joints while moving.
- Struggle in sitting, getting up and walking.
• Incapable of using legs& hands normally.
• Uncontrollable body movements.
• Getting tired easily.
• Delay in activities.
• Cheeks and fingers become blue in colour.
• Inferiority complex.
• Hands, legs and feet in folded condition.

6.7.3. Problems faced by the Orthopaedic Impaired children during learning:

The handicapped children are normal like other children except in their body movements. Their feelings, desires and expectations are similar like normal children. But they are unable to do activities like others. But the teaching method must be based on their skills.

The problems encountered by the orthopaedic Impaired are as follows:

- The child may not come to school in correct time because of their problem in moving.
- Difficulty in moving from one place to another.
- Difficulty in handling writing materials.
- Hand and eye may not coordinate with each other in brain paralysis cases.
- Delay in completing their regular work due to building structure. (steps)
- Delay in arriving at the examination rooms with proper preparation due to inactive or amputated legs.
- Hands impaired struggle to write exams.
- Frequent occurrence of pain.
- Difficulty in lifting and placing heavy objects.
- Keeping aloof during play.
- Unwanted body movements / jerks while walking.
- Unable to sit in a place for a long time.
- Difficulty in answering nature calls.
- Problems to cope with co-students.
6.7.4. Teachers’ Approaches to Eliminate the Orthopaedic Impairment:

As the learning ability of Orthopaedic impaired children is not affected. Normal teaching method can be followed.

- To strengthen the muscles, exercises are given.
- To make the students participate in games of their choice.
- Practice is given to write the correct shapes of letters.
- Designing of school environment for their free movement.
- Provide ramp instead of steps.
- Provide facilities for inactive to reach the examination hall.
- Provide scribe facilities during examination.
- Give practice to write with the other hand if one hand is affected.
- Priority is given to these children in all educational activities to motivate them.
- Identifying individual talents, tapping their skills and motivating them to participate in co-curricular activities.
- Train the parents to continue the muscles exercises given to the children in the school & in resource centre.
- The teachers based on their training identify the disabled children by observation with the aid of Resource teacher, the teacher helps these children for doctor consultation.
- Telling stories about the achievers with impairment to develop self-confidence.
- These children must be involved in games depending upon their ability.
- Instruction are given to the parents for the proper use of equipments issued to these children during Medical camps conducted by S.S.A.

6.7.5. Teaching Equipments for the Orthopaedic Impaired Children:

Rehabilitation through education is the most predominant factor for the orthopaedic impaired children. Teaching learning materials are very essential and useful to give special training and provide education to the different types of orthopaedic impaired children. It is very important to have a knowledge about the teaching aids used for these students.

- Euler peg board is used to practice the day-to-day activities.
- Finger dexterity peg board is used to take materials by using fingers.
• Tower set.
• Use of crutches, for the leg affected children, are taught.
• The usage of ‘Baby walker’ is taught to the ‘brain paralysis’ children.
• Usage of crawler is taught.
• Provide a comfortable chair and table for each child.
• In a specially designed classroom, the appropriate teaching aids, big pencil and big pens to handle easily, are provided to the students.
• The Electronic typing facilities arranged for the students who are incapable of using pen or pencils.

6.7.6. Achievers

Franklin D. Rousevelt

Rousevelt was born in America in 1882. In 1921, his legs became inactive in a polio attack. Due to his will power, he became a well known orator. His speech skill elevated him to the post of American president in 1923. His self-confidence, perseverance and speaking skill made him become the president of America in 1936. He adorned the prestigious and the coveted post for the third and the fourth time in 1940 and 1944 respectively.

6.8 MENTALLY RETARDED

Introduction:

Some children may be seen with physical impairment. Mental retardation is defined as the loss of brain and mind (cognitive) growth or slow in their growth. It includes physical impairment also. This mental retardation is incurable.

As the intelligence skill is slow, the retarded are unable to live independently or live with others. They cannot lead their own life by adapting themselves to the environment. When compared with growth and activities of the normal children, the retarded children are unable to walk, talk and eat properly. They involve in irrelevant behavioral activities. Occurrence of hindrances in performing one’s own activities, is known as mental retardation.
The less mental growth is due to the damages caused in the brain during childhood. Co-operation and co-ordination of the teachers, parents, physiotherapists and nerve specialists' continuous consultation is extremely essential to train and bring up these mentally retarded children in a better way.

**CAUSES FOR MENTALLY RETARDED:**

- Brain Fever.
- Genetically impaired. Eg: Downswing rom, Defect in 21st chromosome
- Defect in nervous system and spinal cord.
- Low supply of oxygen to brain during birth.
- Deep head wound during birth.

**6.8.1 SYMPTOMS of MENTAL RETARDNESS**

- Delay in all growth and development.
- Not able to sit even after 12-15 months.
- Not able to walk even after two years.
- Not able to speak even after two years.
- Not able to eat and dress independently
- Dependence in answering nature calls.
- Difficulty in playing with their peer.
- become ferocious frequently.
- Incapable of carrying out oral orders.
- Inability to communicate personal needs.
- Difficulty in understanding two or more orders at the same time.
- Ignorance of environment takes more time in learning skill activities.
- No progress in studies,
- inattentive and excess loss of memory.
- Not able to participate in all classroom activities.
- Inability to sit in a same place for long time.
- Difficulties in acquiring new ideas and learning new activities.
- Dependence in visual learning and tactile learning.
6.8.2 PROBLEMS FACED BY MENTALLY RETARDED CHILDREN

- Due to delay in brain growth, the learning skill is relegated to the background.
- Difficulty in understanding concepts in a same method. For example, to know the parts of body and day today habits.
- Loss of memory power. Difficulties in retention. For example: forgetting the learning skills within a short time.
- Difficulties in problem solving. Example: Unable to decide after missing a regular bus.
- Drawback in decision making.
- Distraction in concentration. For example: Leaving classroom at the time of teaching.
- Failure to implement the understood habits like wishing teachers in the classroom and welcoming the guests at home.
- Difficulties in understanding the consequences.
- Touching the hot vessel without realizing it’s effect.

6.8.3 TEACHERS ROLE FOR MENTALLY RETARDED CHILDREN

- Exempted from the school curriculum for promotion by giving concession.
- It is important to develop life skill in the teaching learning activities for these children.
- With the guidance of an expert teacher, the teacher imparts the skill to do their personal duties.
- Depending upon the child’s mental ability, the teacher not only imparts the content part of the syllabus orally, but also through activities.
- According to the mental growth of the child, the teacher develops the learning skills by using life oriented objects.
- Training is started after identifying success oriented opportunities.
- After learning the numbers, the addition and subtraction should be taught.
- Display of related objects for introduction of “Sunday” may not be possible. So, ‘Sunday’ related activities can be incorporated.
- The parts of the body can be introduced by showing the different parts of organs.
- Retention of learned skill is possible by the repetition of teaching skills.
- Imperative statements are either limited to one or two.
x Training is given to develop memory power. Ex: List out the objects after five minutes of observing five objects on the table. Daily activities are recollected and arranged orally by the retarded students.

x Teach the methods of routine activities or duties. Ex: To wash hands before and after taking food. To wear clean clothes after bathing. To use toilets properly.

x Talent based follow up work is provided. Individual attention by the teacher is essential to involve the mentally retarded children in the entertainment oriented play-way methods to bring out the individual talents of the children.

6.9 Role of Parents & Teachers

The role of parents is more important for the progress of their children. If the children are handicapped, their rehabilitation must begin first at home. Generally, the parents are willing to extend their full support to these handicapped children. Due to the lack of awareness they do not know how to guide, handle & help these children. The role of parents and teachers in handling the handicapped is discussed below.

6.9.1 Role of teachers in teaching the Hearing Impairment.

✓ The Hearing impaired children must have a good view of the teacher in the classroom. A good rapport between the teacher and the students is to be maintained.

✓ The teachers must look at the faces of these students while teaching, so that they follow the lip movement and the gestures of the teachers.

✓ The teachers should use more teaching learning materials; especially more visual pictures are to be used.

✓ More training for speaking skills should be given.

✓ While teaching new lessons, real objects must be used.

✓ More reading practice is given to the learners.

✓ While teaching new lessons, the teacher writes it on the blackboard and explains the contents.

✓ Develop speech skill through conversation.

✓ Provide opportunities for visual experiences.

✓ Make use of mirrors for speech practice.

✓ Poems are taught with rhythm and music.
Lecture Notes on Special Education.

✓ Integrate writing activities with reading skills.
✓ Avoid signs among the less hearing impaired children.
✓ Train the students to read simple sentences.
✓ Provide opportunities for the children to learn drama & conversation lessons in a simple way.
✓ Ascertain whether the students use the hearing aids properly in the classroom.
✓ More colorful pictures, charts, and flash cards are to be used.
✓ Teacher creates opportunities to bring out individual talents and creativity.

Role of parents.

Parents help the children to understand and differentiate the various types of sounds in their surroundings. Eg.: bell sound - Telephone bell sound.

  - Calling bell sound
  - Temple bell sound
  - Cycle bell sound.

➢ Identify the defects of the children at the earliest and provide appropriate medical treatment.
➢ The names of the items in the respective boxes are written at home for their easy identification.
➢ Train them to speak more. Avoid fast speaking with them.
➢ Introduce new words with real objects or things.
➢ It is important to use words & sentences with the hearing impaired children than using signs to explain them.

6.9.2 Role of Parents - Teachers

➢ The methods adapted by the teachers for the hearing impaired must be followed by the parents at home too.
➢ More speaking opportunities are to be given to the children.
➢ The efforts of the children are to be appreciated.
➢ Do not start the training with high expectations because these children are hesitant to speak at the beginning.
➢ They stammer and they repeat the same syllable or word often. More patience is essential.
➢ Do not criticize and make fun of their efforts. This will affect their self-confidence.
Lecture Notes on Special Education.

- While teaching new words, the teacher writes them on the blackboard and introduces these words slowly to the children.
- Necessary learning equipments or tools are to be planned and prepared for their speech training.

6.10. Educational incentives and other concessions for the disabled children:

In 1947, Govt. of India implemented educational incentives & concessions for the handicapped under the integrated Education scheme. In 1982, the Department of Education has implemented the concessions facilities to the disabled. The union territories have announced 100% educational aid to the handicapped children.

Beneficiaries among the handicapped:

- Children with locomotor handicap - Orthopaedic handicapped.
- Hearing Impaired.
- Visually Impaired.
- Intellectually disabled, educable group (IQ 50-70).
- Multiple handicapped.
- Children with learning disabilities.

6.10.1 Educational Scholarship/ Allowances:

<table>
<thead>
<tr>
<th>Item</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Books &amp; stationery (Annually)</td>
<td>Rs. 400-00</td>
</tr>
<tr>
<td>Uniform (annually)</td>
<td>Rs. 200-00</td>
</tr>
<tr>
<td>Conveyance allowance (Monthly)</td>
<td>Rs. 50-00</td>
</tr>
<tr>
<td>Monthly allowance for readers who assist children from V Standard onwards</td>
<td>Rs. 50-00</td>
</tr>
<tr>
<td>Allowance for Handicapped persons assistant (Monthly)</td>
<td>Rs. 75-00</td>
</tr>
<tr>
<td>Purchase of handicapped appliances (For 5 yrs period)</td>
<td>Rs. 2000-00</td>
</tr>
</tbody>
</table>

If more than ten handicapped children study in a school, an assistant can be appointed and Group-‘d’ salary can be paid to the assistant. If the parent’s income is less than Rs 3000/- per month an hostel fee of Rs 200/- is paid to the hostel students.
In case of 10 students in a rural school, a rickshaw is freely provided to the school. An amount of Rs 300/- is paid for the rickshaw maintenance. These children who avail rickshaw are not eligible for conveyance allowance.

1.10.2 Concessions for the Hearing Impaired:

An age relaxation of 5 years is given in education for these children.

Aids in Education:

Financial assistance is provided from IX std to Degree level. For SC/ST students the examination fees is free. The other caste students are exempted from exam fees if the parents’ income is less than 24,000 Rs annually. These students are given additional ten minutes duration in the exam. They are eligible for scribes during exam. The scribes are paid Rs 30/- for each subject.

Concession for Hearing Impaired, Physically Handicapped & Mentally retarded:

Learning materials are supplied freely. They are exempted in language papers. No fees are collected from these children.

Conveyance Facility:

75% Concession is given to all handicapped. They are permitted to travel with assistants. District level free travel is provided to blind people. Free travel to destination is given to other handicapped.

Scheme of Assistance to Disabled persons for purchase / Fitting of Aids / Appliances (ADIP Scheme)

Assistance to handicapped is provided under this scheme.

Free Medical Check-Up:

Free medical check up to all types of handicapped is provided to test the nature of deficiencies and disabilities.

Free supply of appliances and artificial limbs:

Necessary appliances like three wheelers, artificial limbs, belts, wheel chair, clutches, walking sticks, special shoes and M.C.R chappels are freely supplied to the physically handicapped people.
1.10.3 **Concessions for Hearing Impaired:**

All types of Hearing machines or appliances, educational materials, spectacles, walking sticks, (Audio) calculators & clocks, Tape recorders are supplied freely.

1.10.4 **Concession for mentally retarded:**

Appliances needed for daily activities and necessary educational materials are provided.

**Assistance for surgery:**

Financial aids for the handicapped to reduce the intensity of the disability or to avoid the disability, an amount of Rs 500/- for hearing handicapped, Rs 1000/- for blind, Rs 3000/- for physically handicapped are given. Surgery is to be performed either in the Govt. hospital or in any Govt. recognized (charitable) hospitals.

**Conclusion:**

In this unit, We came to know vividly that education should not hurt the handicapped children either physically or mentally and the educational environment must provide a happy & joyful learning for the disabled. The role of the teachers and the parents for the hearing impaired, physically handicapped and mentally retarded and their challenges & solutions, the causes for the deficiencies & disabilities and the methods and approaches of the teachers in teaching these children are discussed in this unit in detail.

**Achievers** - **Achievements.**

<table>
<thead>
<tr>
<th>Achievers</th>
<th>Achievements</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thomas Alwa Edison</td>
<td>Bulb, Phonogram.</td>
</tr>
<tr>
<td>Alexander Graham Bell</td>
<td>Telephone.</td>
</tr>
<tr>
<td>Helen Keller and Sullivan</td>
<td>Braille letters.</td>
</tr>
<tr>
<td>John Milton - An epic Poet</td>
<td>Paradise Lost, Paradise Regained.</td>
</tr>
<tr>
<td>Winston Churchill</td>
<td>Prime Minister of Britain.</td>
</tr>
</tbody>
</table>
References


.End.