CHAPTER - I
## CHAPTER-I
### INTRODUCTION

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CHAPTER-I

INTRODUCTION

1.1 Introduction:

Human nature is multifarious and flexible. None of us is even identical in true sense; each child has his own peculiarities which present him as a separate individual from the others. However, the distribution of individual differences among the population in all the personality dimensions follows the trend of a well known pattern known as normal distribution. Accordingly, most of the children are found to possess average abilities, capacities and potentialities with regard to the growth and development. However, it does not always happen this way. There are exceptions and as such many of our children deviate too much from the expected range of the normal or average possession. Some are more bright, some are dull, some are unable to cope with the normal situation inspite of having the talents. This category of children is in need of some special care, attention and measures for the adequate adjustment, welfare and progress in their lives. They find it difficult to learn without special inputs. Children with special needs are found to suffer from extremes or excesses. Among them the fortunate ones like the gifted, talented and creative possess capacities and potentials in abundance in one or other fields and the unfortunate ones, called the disabled or impaired are found to suffer a lot from one or the other deficits, deficiencies and inadequacies with regard to their potentialities, growth and development.
1.2 Conceptual Background of the study:

Exceptional refers to any one who has qualities that are beyond the range of the average, either positive or negative. Psychological abnormality, unusual intelligence or superior mental ability, mental retardation or unusual creative potential are all beyond the realm of average behaviour and children or persons who have these characteristics are considered exceptional or special. Thus, not only the disabled but the talented and creative children also, on account of their specific needs and problems are in a dire need of some specific and special provisions for their adjustment and education. These individuals have special learning needs i.e. they cannot be benefitted from regular classroom and needs extra special treatment. The term exceptional / special or Children With Special Needs (CWSN) is in fact, quite a comprehensive umbrella term that encompasses all types of children with special needs differing significantly from their so called average or normal peers.

Who are exceptional children? How do they differ from normal ones? Why is it necessary to understand and recognise them? What type of training or educational methods should be adopted for them? These are the questions that naturally come to our mind while talking about special or exceptional children. So exceptional children are those who possess exception or uniqueness in one or other field or trait of personality or quality. They usually deviate from the normal children and they need extra special treatment through restorative and rehabilitative inputs to normalise their livings, otherwise they will be at a disadvantage caused by some impairment or superior mental abilities as they cannot be benefited from general regular treatment. Researchers and thinkers
in the field of education and psychology have taken help of the subject statistics for arriving at a statistical criterion for this purpose (Figure: 1).

**FIGURE : 1**

Distribution of IQ scores in population

*Source: Educating Exceptional Children. An introduction to special education by S.K. Mangal P4 (Parentice Hall of India Pvt. Ltd. 2007).*

**Classification and Identification of exceptional/special children:**

The classification and labelling of the exceptional children have been a quite controversial topic. There are a number of educationists and thinkers in this field who have expressed their strong opinion against this classification (Reynold, 1991; Stainback & Stainback 1991, Lipsky & Garten 1989, Kliewer & Beklin 1996). They pointed out the following disadvantage of classifying and labelling the exceptional / special children -
It can segregate exceptional from the average.

It can stigmatize them and lead peers to reject, ridicule or socially isolate them on account of the obvious deviation.

It may give birth so many complexes superiority or inferiority feelings, boastful and self condemning attitude depending upon the type of label attached to them.

But in contrast to such views and fears expressed for the classification and labeling of the exceptional / special children, there stands a group of educationists and thinkers who have strong opinion in its favour. Educationists like Kauffman 1998, Macmillan & Meyers 1979, Mesibov, Adams & Klinger 1997, have opined that -

- Since the exceptional / special deviate and differentiate too much negatively and positively from other children so they must be looked after and perceived differently to meet their special needs.

- Classification may help the professionals and researchers to dig into specific problems of a particular category and communicate with suggestive welfare measures.

- It is quite essential for having some adequate system for the classification and labelling of the exceptional / special children as they strongly need the special measure for the adaptation, education and progress.

The Persons With Disabilities (Equal Opportunities, Protection of Rights and Full Participation) Act 1995 has classified disability in the following manner-

1) Visual Impairement / Blindness
ii) Low Vision

iii) Leprosy-cured

iv) Hearing-Impairment

v) Locomotor Disability

vi) Mental Retardation

vii) Mental Illness

All special children may be classified in the following categories for the practical purposes in the field of education and psychology -

A. POSITIVE EXCEPTIONAL:

i) Gifted: Gifted means cognitive superiority, creativity and motivation of sufficient magnitude to set the child apart from the vast majority of age mates and make it possible for him/her to contribute something particular which is valuable for the society.

ii) Creative: Ability to express novel and useful ideas and to educate new and important relationship and the ability to solve crucial problems.

iii) Educationally Bright students: The levels of scholastic achievement of these children are very high in comparison to other normal children. They have high adaptability to learning, understanding and assimilation of thoughts of high standard. They have a longer memory span of the things what they have learned. They are bright and accelerated. Their IQ is higher than normal. These children need good teachers and good
educational environment as high educational achievement is an outcome of correct practice, guidance and efforts.

iv) Sportive: Such type of children are always found to be very active and ready to do things assigned to them. They do not normally refuse or deny the things assigned to them.

B. NEGATIVE EXCEPTIONAL:

i) Physically Handicapped/Disabled: There is a tremendous range and variety of physical disabilities. Children may have abnormalities or they may acquire disabilities through accident or disease after birth. The physical disability can be classified in the following branches -

a) Visually Impaired: VI persons are those who have significant loss of or defects in vision due to impairment in one or both eyes. There are two types of Visual Impairment-

- Partially sighted/Low vision
- The Blind

b) Hearing Impaired: HI persons have hearing loss in one or both ears due to impairment in the auditory mechanism. There are four types of Hearing Impairment -

- Mild
- Moderate
- Severe
- Profound
c) Orthopaedically Handicapped/Crippled: It means a severe skeletal, muscular or neuromuscular impairment which adversely affects not only children's social adjustment but also in educational performance. Due to congenital anomalies, disease and other infection and accident it may cause the following type of disabilities -

- **Neurologically Impairment**: It means a specific impairment or dysfunction of the nervous system which adversely affects the education of the child.

- **Locomotor Disability**: It is a type of disability where movements of our body are affected due to disease, injury, any absence of part, deformities in the joints, bones and muscles or any injury of nerves, spinal cord or brain. It arises due to congenital, cerebral, stroke, paraplegia, amputation, polio deformities etc.

- **Cerebral Palsy**: It is disabling condition in which paralysis or other motor dysfunction is caused by damage to the child's developing brain, also due to some factors like infection, diseases, trauma, lack of oxygen, or problem during the birth process. Some additional problems may arise like psychological problems, impaired intellectual ability, communication problems or visual and hearing problems, however, many individual with cerebral palsy do not have these additional problems.

- **Epilepsy / seizure disorder**: It results from an abnormal discharge of electrical energy in certain brain cells. When enough cells are affected, the individual may lose consciousness, move involuntarily or experience abnormal sensory phenomena. An individual may be identified as epileptic when seizures
occur chronically and repeatedly.

- **Spina Bifida**: SB is a condition when the spinal column do not close completely during fetal development, resulting in paralysis. Spina Bifida may be associated with hydro cephalus (excessive pressure or cerebrospinal fluid) which could had to sustaining attention or create learning problems like remembering new things, or remembering organising their thoughts or mental retardation.

- **Muscular Dystrophy**: MD refers to a progressive and hereditary weakening and washing away of muscles tissues. At present the specific cause is unknown and there is no cure. Some forms are generally fatal also. Intelligence does not seem to be affected. The conditions involve stiffness in the joints or connection tissue, curvature of the spine (scoliosis), bacterial bone infection (osteomyelitis), improper and brittle bone formation (osteogenesis imperfecta) and missing and weaken limb muscles (arthrogryposis).

- **Arthritis**: Arthritis is a disease involving inflammation of the joints usually reducing range of motion and causing weakness. It is often associated with elderly people. But sometime it may affect the people of any age including the juveniles.

d) **Autism**: It refers to a pervasive developmental disorder that may bring serious impairments and disabilities in the communication, social, emotional and cognitive behaviour of the affected children demonstrated often in terms of social aloofness and bizarre activities like repetitive and unusual responses to sensory experiences and affecting adversely their educational
ii) Mentally Retarded: MR refers to significantly subaverage intellectual functioning resulting in or associated with impairment in adaptive behaviour and manifested during the developmental period. Following tables show the classification of Mental Retardation in terms of IQ -

**TABLE : 1**

Classification of Mental Retardation by AAMR, 1993

<table>
<thead>
<tr>
<th>Level of Retardation</th>
<th>% of Population</th>
<th>IQ</th>
</tr>
</thead>
<tbody>
<tr>
<td>Profound</td>
<td>1.5%</td>
<td>20-25</td>
</tr>
<tr>
<td>Severe</td>
<td>3.5%</td>
<td>26-40</td>
</tr>
<tr>
<td>Moderate</td>
<td>10%</td>
<td>41-55</td>
</tr>
<tr>
<td>Mild</td>
<td>85%</td>
<td>56-76</td>
</tr>
</tbody>
</table>

Source: AAMR's Classification of MR

**TABLE : 2**

WHO's classification of MR

<table>
<thead>
<tr>
<th>Categories of Retardation</th>
<th>IQ</th>
</tr>
</thead>
<tbody>
<tr>
<td>Profound</td>
<td>Below 20</td>
</tr>
<tr>
<td>Severe</td>
<td>20-34</td>
</tr>
<tr>
<td>Moderate</td>
<td>35-49</td>
</tr>
<tr>
<td>Mild</td>
<td>50-69</td>
</tr>
</tbody>
</table>
iii) **Educationally Backward**: Educationally Backward children can be categorised as -

- Learning Disabled, and
- Slow Learners

- **Learning disabled (LD)**: LD is generally considered as ‘umbrella’ term for a variety of learning problems. It is the most common handicapping condition in school. The different types of LD are -
  
  - Minimal Brain Dysfunction (MBD)
  - Minimal Brain Injury
  - Perceptual Handicaps
  - Dyslexia (reading disability)
  - Dyscalculia (mathematics disability)
  - Word blindness or strephosymbolia
  - Attention Deficit Disorder with or without Hyperactivity (ADHD)

- **Slow Learners**: These type of children unable to cope with normal speed of the school subjects while usually a normal child does. Their achievement of study is generally slow and is two or three years slow/less than the children of their age. If the causes are detected promptly, treatment can be given accordingly.

iv) **Socially Handicapped**: SH comes from the specific environmental condition. Some of the categories may be listed below -

- **Deprived children**: Deprivation arises among the children due to social, economical and cultural deficiencies.
- **Maladjusted children**: Such children are isolated from or aggressive towards society. Due to family problems, personal problems, health problems they cannot make adjustment in the society.

- **Problematic children**: They create problems by telling lies, thieving, quarrelling, bed wetting, etc. They also often have escape tendencies.

- **Juvenile Delinquents**: Children below 18 years who are involved in antisocial activities, breaking laws, having destructive tendencies, involved in cases like murder, rape, violence theft are called Juvenile Delinquents.

- **Deviant children**: Deviant children are those who take conformity to their role expectation in a given social situation and who show discordance with moral standards and group norms.

- **Street children**: Street children are those who live on the streets or pavements (children of the street), those who spend most of their time on the street (children on the street) doing work on petty trades with or under the supervision of the employer outside the family and abandoned children who have no family ties at all and run away from unpleasant and traumatic home environments.

  v) **Emotionally Disabled**: This category of children are unable to maintain satisfactory interpersonal relationship with home, in the neighbourhood, school and society for which their academic performance is affected to a great extent.

  vi) **Children with Communication Disorder**: Communication disorder
covers a variety of disability areas, all having to do with problems in interpersonal communication. The ASHA has classified communication disorder as -

- **Speech disorder**:
  - Voice disorder - affects pitch, volume or quality of speech.
  - Articulation - error in pronouncing
  - Fluency disorder - interrupts normal flow of speech

- **Language disorder**: It is viewed as most damaging than speech disorder, because language is the central to communication. It is classified into five forms-
  - Phonology (sounds)
  - Morphology (forms of words)
  - Syntax (word order and sentence structure)
  - Semantics (the meanings of words and sentences)
  - Pragmatics (the social use of language)

**vii) Multiple Disability**:

Children with MD are those who suffer from two or more obvious or not so obvious disability at a time related to one or the other areas or aspects of their growth and development. Special support including education is needed by them for the well-being and progress in life. Instances of multiple disability are deaf-blindness, blind or deaf-mental retardation, blind or deaf-cerebral palsy and even sometime mix blend of both positive and negative deviation is seen like - gifted-blind, gifted-deaf, creative locomotor disability etc.
viii) **Attention Deficit Hyperactivity Disorder**:

Although not unduly known across the globe, ADHD has a long history of more than 200 years. It was first recognised by a German physicians and poet Dr. Heinrich Hoffman in 1845. It refers to a neurobehavioural disorder of the children (often visible before the age of 6 or 7) through the symptom of excessive inattentiveness, hyperactivity and impulsivity (often accompanied by the problems of deficient and aggressive behaviour also). This disorder is almost caused through some dysfunction in the brain and neurological functioning. It makes them to lose control over their ability resulting into ADHD causing major difficulties in one's life areas like - home, school, workplace or social situation.

**FIGURE : 2**

*Classification of exceptional / special children*
1.2.1 Concept of Impairment, Disability and Handicap:

Exceptionality through its wings like positive and negative deviation are quite capable of portraying both the bright and dark prospectus of one’s growth and development. Its dark side portraying focuses on a much larger group of exceptional children known as disabled. As already been discussed, this category of children suffer from so many physical, mental and emotional deficiencies and deficits in one or other aspects of their overall growth and development. As a result the term like impairment, disability and handicap etc. are often associated with their exceptionalities for understanding and caring of them.

WHO has provided the following guidelines to understand these terms - Impairment, Disability and Handicap.

**Impairment**: Impairment in its simple meaning denotes or represents all sorts of disturbances or abnormalities in the structure and functioning of our body systems including psyche. So it represents a certain type of loss or deficit and deficiency at the organic or psychic level of an individual. For e.g. loss of a limb, paralysis of speech (speech disorder) or hearing system, structural abnormalities in one’s neurological system, brain, spinal cord etc.

**Disability**: The term disability is used to mean the loss of function that individual experiences because of the impairment. It limits his ability to perform certain task. For e.g. vision or hearing impairment may result into ones loss or reduced function with respect to the use of his visionary or hearing system. Similarly orthopaedic or locomotor impairment may limit one's function like walking or other motor functioning.
**Handicap** : Impairment results into a specific type of disability and disability in its own turn may give birth to a specific condition known as handicap. Actually Handicap stands for a disadvantage imposed on our individual or account of his disability. A handicap is the effect of a disability on an individual’s functioning in his environment. It limits his social functioning or adjustment to his environment. As a result a physically challenged child even after using wheelchair may feel handicapped in terms of making proper adjustment and adaptation to his self and the environment.

The above discussion leads to include that all these three terms impairment, disability and handicap have a perfect linear relationship i.e. one leading to the other in the following manner -

\[ \text{Impairment} \rightarrow \text{Disability} \rightarrow \text{Handicap} \]

It may be mentioned that now, in present practical situation such linear relationship is disagreed. Because in some cases such Impairment and Disability can be stopped to lead to disability and handicap respectively through restorative and rehabilitative inputs and even through medical treatment.

However, there exists a sound relationship between impairment, disability and handicap conditions. NCMRR and NIH, USA (1993) have developed a model known as NCMRR Model of Disability. Instead of three it has five components -

**Pathophysiology** : is the initial stage of disability and is concerned with the basic biological and psychological disturbances.

**Impairment** : emphasises the more generalized effects of these disturbances.
Functional Limitations: emphasises a specific skill or set of related skills that cannot be executed and are often a result of pre-existing impairment.

Disability: stands for the decrement in function that a person experiences as a consequence of his or her impairments and functional limitations.

Societal Limitation: The term handicap has been replaced by the term societal limitation in the NCMRR model emphasising the roles of the environment and society in limiting the opportunities for one's growth and development.

In the NCMRR Model of Disability all the five components were arranged around a pentagon (Figure: 3).

**FIGURE : 3**

NCMRR Model of Disability

Children with Disability in our country:

The Ministry of Social Justice and Empowerment has been the Nodal
Ministry dealing with subject of disability and a major part of it is also addressed through the Health Ministry. In fact child disability has never been a focus area of any Ministry. Therefore, data related to disability among children varies from one source to another. Detailed figures on child disability according to the 2001 Census Report are as follows:

2.19 crore (2.13%) of the total population of the country are persons living with disability and 1.67 percent of the total population in the age group 0-19 years are disabled (Table: 3).

**TABLE : 3**

Disabled population in the age group 0-19 by Type of Disability and Age

<table>
<thead>
<tr>
<th>Types of Disability (in %)</th>
<th>In Seeing</th>
<th>In speech</th>
<th>In hearing</th>
<th>In movement</th>
<th>Mental</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Disabled population</td>
<td>21906769</td>
<td>48.55%</td>
<td>7.49%</td>
<td>5.75%</td>
<td>27.87%</td>
</tr>
<tr>
<td>Disabled population in 0-19 yrs.</td>
<td>35.31%</td>
<td>4.66%</td>
<td>10.03%</td>
<td>1.16%</td>
<td>29.27%</td>
</tr>
<tr>
<td>Disabled children in 0-9 yrs.</td>
<td>1.67%</td>
<td>0.78%</td>
<td>0.17%</td>
<td>0.01%</td>
<td>0.48%</td>
</tr>
</tbody>
</table>

Source: Census of India 2001 : Table C2o India

Among all persons living with disability, 35.31% are children and young adults in the 0-19 years age group. 4.66% children in the age group of 0-9 years have been reported to be visually impaired and 1.16 as hearing impaired¹.
Other informations are ² -

➢ One in every 10 children is born with or acquires a physical, mental or sensory disability. So India could have 12 million (1.2 crore) disabled children.

➢ 75% of the disabilities are presentable.

➢ Only 1% (one percent) of the children with disability have access education.

It is said that hardly fifty percent of the disabled children reach adulthood and not more than twenty percent survive to cross the fourth decade of life³.

Although there is very little information regarding the nutritional status of children with disabilities, it is recognised that disabled children living in poverty are among the most deprived in the world.

"Feeding difficulties contributing to poor nutrition have been reported among disabled children living in more affluent environments"⁴.

Ten Messages about children with Disabilities⁵:

➢ Prevent negative stereotypical attitude about children with disabilities by avoiding negative words, such as 'disabled', 'crippled', 'handicapped', instead of 'a child with a physical or movement disability'; 'wheelchair bound' for 'a child who uses wheelchair', 'deaf and dumb' instead of 'a child with hearing and speech disability', or 'retarded' for 'a child with mental disability'.

➢ Depict children with disabilities with equal status as those without disabilities. For example, a student with a disability can tutor a younger
child without a disability. Children with disabilities should interact with non-disabled children in as many ways as possible.

➤ Allow children with disabilities to speak for themselves and express their thoughts and feelings. Involve children with and without disabilities in the same projects and encourage their mutual participation.

➤ Observe children and identify disabilities. Early detection of disabilities has become part of early childhood education. The earlier a disability is detected in a child, the more effective the intervention and the less severe the disability.

➤ Refer the child whose disability is identified, for developmental screening and early intervention.

➤ Adapt the lessons, learning materials and classroom to the needs of children with disabilities.

➤ Sensitise parents, families, and caregivers about the special needs of children with disabilities. Speak to parents in meetings as well as on a one-to-one basis.

➤ Teach frustrated parents simple ways to deal with and manage their child's needs and help them to have patience to prevent abuse of the disabled child.

➤ Guide siblings and other family members in lessening the pain and frustration of parents of children with disabilities, by being helpful.

➤ Actively involve partners of young children with disabilities as full team members in planning school and after school activities.
Status of Disability in Assam:

To begin with the census figures, much discrepancy has been found regarding the actual number of disabled persons in the state. But here, Census report figure has been regarded as authentic. As per Census 2001 report, there are 5,30,300 disabled people in Assam.

The RCI Act, 1992 reveals that in Assam the availability of trained manpower in disability rehabilitation field is inadequate. In Assam, there are only 4-5 institutions offering a few RCI recognised training programmes. Including Assam, all NE states have not taken any noteworthy steps to implement the PWD Act., 1995. Most of the states donot even have a full-time commissioner. In Assam, Meghalaya and Nagaland only there is a fulltime commissioner.

As for the 3% reservation of jobs, for the disabled in Assam, jobs are yet to be identified by many departments. Nothing has been done to A and B posts and jobs are restricted to C and D category for the disabled persons.

In Assam and Nagaland only there is some awareness regarding the National Trust Act and its provisions. In Assam 9 Local Level Committees (LLCs) have been notified so far but most of them are inactive.

Most of the public buildings and facilities in the state of Assam are not accessible. They are not constructed as disability-friendly.

In Assam the education scenario is also not encouraging. But the noteworthy point regarding the higher education of the Disabled Students is that the Gauhati University has availed of UGC assistance to establish a separate
department on Disabilities Studies and it has been opened in the month of
February, 2010. Kishore Mohan Bhattacharya, who himself is a blind is the
HoD i/c of the department.

1.2.2 The Physically Disabled persons:

Physical disability is one of the categories of exceptional children and are
essential members of the society like others. There is not much difference
between these persons with the normal ones in their psychological make-up.
They have their own exceptionalities and influences in society. But their physical
deformity sometimes obstruct from making normal progress in his physical,
mental, intellectual and social as well as vocational activities as the average
children do. Except inability to do some kinds of work, a physically disabled
person looks and behaves like a normal child. But the affected part of the
body which makes the person physically disabled can be made to function to
a certain extent and even sometimes completely through adaptive devices.

Physical disability may be overall the broadest category of disability. Physical
disabilities and health impairments can assume many forms such as blindness,
deafness and muteness, being crippled including some common disabilities
like cerebral palsy, epilepsy, spina bifida, muscular dystrophy, scoliosis
(curvature of the spine), osteomyclities (bacterial bone infection) osteogenesis
imperfecta (improper and brittle some formulation) and arthrogryposis (missing
or weakened limb muscles). The study is delimited to two forms of physical
disability i.e. Visual Impairment and Hearing Impairment.
1.2.2. A) The Visually Impaired (VI):

Senses are said to be the gateways of knowledge. Out of our five sense organs, the sense of sight possess the most unique advantage of providing knowledge and information of the environmental surrounding in a most comprehensive and suitable way. That is why knowledge gained through a picture of the object, person or event is said to be hundred times better than its mere description in words. Unfortunately the children with visual impairment in one way or the other are deprived of the valuable opportunities of coming into direct contact with the realities of life using their sense of sight and therefore, suffer to the extent of requiring special care, provision, education and treatment for their development and adjustment.

Who are Visually Impaired?

Visual Impairment is defined in terms of visual acuity, field of vision and visual efficiency. 'Visual ability' of the eye to see objects clearly is assessed using the snellen chart, developed by Herbert Snellen, a Dutch doctor. The chart starts with a big 'E', which a normal eye can see at a distance of 200 ft. When a person is impaired, he has to come within 20 ft. or near to see the 'E' clearly and then the person is considered legally visually impaired. His vision is assessed as 20/200 in the better eye. It simply means that a legally blind person sees something at 20 ft. distance which a normal person sees at 200 ft. clearly.

A person is also considered legally blind if his field of vision is extremely restricted. When gazing straight ahead, a normal eye is able to see objects
within a range of approximately 180 degrees. Some people with limited fields of vision describe their perceptions as viewing the world through a narrow tube or tunnel; they may have good central vision but poor peripheral vision at the outer ranges of the visual field.

In terms of education, the WHCCHE, 1930 defined blindness as "A blind person is one who cannot use his eyes for education".

The RCI Act, 1992 has pointed out that VI means a person who suffers from any of the following conditions, namely -

- Total absence of sight,
- Visual acuity not exceeding 20/200 (snellen) in the better eye with the correcting lenses, or
- Limitation of the field of subtending an angle of 20 degree or worse.

Classification of VI Children:

The following functional classifications can be proposed to classify VI children -

a) The functionally blind non-functionally sighted: A person shall be considered to be functionally blind or non-functionally sighted if he is visually impaired and is unable even with the aid of optical or image enhancement devices, to read and write as the literate-sighted do or fails to visually identify familiar objects as the illiterate-sighted do and also is unable to manoeuvre safely in an unfamiliar environment without the aid of a dog or a cane, as a
sighted person or a functionally sighted person who has unaided mobility.

b) **Functionally sighted with neither sighted literacy nor sighted illiteracy**: A person shall be considered to be functionally sighted with neither sighted literacy nor sighted illiteracy if he is visually impaired and is unable even with the aid of optical or image enhancement devices, to read and write as the literate sighted do or fails to visually identify familiar objects as the illiterate sighted do, but is able to manoeuvre safely in an unfamiliar environment without the aid of a dog, or a cane, as a sighted person who has unaided mobility can do.

c) **Functionally sighted with aided mobility**: A person shall be considered to be functionally sighted with aided mobility if he is visually impaired, yet is able, with or without the aid of optical or image enhancement devices to read and write as the literate-sighted do and is able to visually identify familiar objects as the illiterate-sighted do, but is unable to manoeuvre safely in an unfamiliar environment without the aid of a dog, or a cane, as a sighted person or a functionally sighted person who has unaided mobility, can do

d) **The Functionally sighted**: A person shall be considered to be functionally sighted if he is visually impaired, yet is able with or without the aid of optical or image enhancement devices to read and write as the literate-sighted do and is able to visually identify familiar objects as the illiterate-sighted do and is also able to manoeuvre safely in an unfamiliar environment without the aid of a dog, or a cane as a sighted person who has unaided mobility can do.
Causes of Visual Impairment:

The causes regarding the visual impairment and disability of the children lie well within one’s heredity endowment as well as socio-psychological and physical environment. The main underlying causes in this respect may be outlined as -

- The transfer of genes and chromosome associated with visual impairment to the children from their parents at the time of conception.
- The carelessness adopted by the pregnant mothers in their diets, malnutrition, use of strong drugs, being affected from chronic diseases and affected with serious accidents and incidents, the abnormal and stressful psyche states, unhealthy living and socio-psychological environmental conditions faced by the mothers during their pregnancy.
- The mishaps and incidents at the time of birth of the child, pre-mature delivery, effects of anaesthetic agents and instruments used in delivery, infections caused to the children during delivery, etc.
- Starvation, malnutrition, vitamin deficiency, unhygienic, uncongenial and unfavourable conditions faced by the children in their early years.
- The ill effects of the infectious diseases like small pox, chicken pox and measles etc.
- The evil effects of fatal diseases like cancer, growth of tumours, skin diseases, typhoid, malaria etc.
- Ill effects of reading, writing and working in the defective and improper light, the exposure to electronic devices, radioactive substances and rays from the T.V. screen and working excessively in computers.
Ill effects of the external objects like dust, smoke and pollution etc.

Identification and Assessment of VI children:

Identification of VI children is as early as possible through periodic tests. Because then only appropriate educational facilities can be provided after identifying these children. The snellen chart test may be conducted annually to identify visual impairment.

Following checklist developed by the NCERT, New Delhi, may help a teacher to identify the VI children -

a) Complaints of headache following close eye work.
b) Blinks eyes frequently.
c) Asks other children to read aloud when taking notes from the blackboard.
d) Holds objects including books close to his eyes.
e) Covers one eye and tilts the head forward.
f) Rubs eyes excessively.
g) The pupils of the eyes are of different sizes.
h) Smaller eyelids / red rimmed eye lids.
i) Seem very sensitive to light.
j) Becomes inattentive during reading sessions.
k) Watering of eyes.
l) Squint eyes.

m) Takes false steps while walking.

**Indicators - signs of visions problems:**

a) Lid irritation such as sty or crusted and inflamed lid margin.

b) Crossed or divergent eyes.

c) Irregularities of pupils of the eyes or their failure to react normally to light.

d) Unusual head position.

e) Undue sensitivity to light.

f) Reading or writing problems, include -

i) Inability to see distant reading material.

ii) Holding or reading material usually near or far from the eyes to see clearly.

iii) Picking up words above and below a line.

iv) Squinting while reading.

v) Confusion in reading and spelling.
1.2.2. B) The Hearing Impaired (HI):

The term hearing impaired children in its simple meaning stands for those children who are found to suffer from one or the other types of hearing impairment. In turn, the term hearing impairment indicates some damage or malformation of the hearing mechanism or defects in the hearing apparatus. As a result of such impairment, the affected child may get disabled in terms of the functional use of his hearing senses which makes the child disabled wholly or partially affecting his normal functioning like daily living, educational or vocational etc. Professionals and laymen have used various terms to mean hearing impaired like 'hard-of-hearing', 'deaf', 'deaf-mute', 'deafened', 'partially deaf' and 'partially hearing'. Hearing impairment refers to a defect in or damage to the hearing mechanism.
Who are Hearing Impaired (HI) ?

HI are those in whom the sense of hearing is non-functional for ordinary purposes of life. They do not hear or understand sound at all even with amplified speech. The cases included in this category will be those having hearing loss of more than 70 dB in both ears. It consists of two groups - the deaf and the hard of hearing. Hard of hearing generally refers to hearing impairments which allow at least some processing of spoken language, often with the use of hearing aid.

Hearing ability is often assessed with a pure-tone audiometer. Tones of different pitch and volume are presented through headphones to students who indicate (e.g. raising their hands) which sounds they have heard. Pitch is referred to as frequency and is measured in Hertz (Hz) units. Most speech sounds occur in the 500 (low) - 2,000 (high) Hz range. Volume is measured in dB, whereby zero decibels indicates the quietest sound a person with normal hearing can detect. Levels of hearing impairment based on audiometric evidence are presented in the accompanying table. Hearing loss above 90dB is often characterised as deafness, and below 90 dB as hard of hearing.

Classification of HI Children :

From the point of view of origin, HI may be classified into two types -

i) Congenital  ii) Adventitious

i) Congenital : This type can be classified into two groups -

a) Hereditary, and  b) Sporadic
a) **Hereditary**: Such type of hearing impaired are those who are impaired from their birth due to hereditary factor.

b) **Sporadic**: In the case of sporadic hearing impairment, the hereditary factor is found to be absent but they are deaf and mute from the very birth like the hereditary deaf. Such type of hearing impairment is generally found in poor families where the parents are deprived of sufficient nutritious food and favourable environment which are essential for healthy and happy life.

ii) **Adventitious**: This type of hearing impairment is caused due to some environmental factors such as accident or an injury but initially they born with normal hearing functioning. This type of hearing impairment also occurs due to negligence, ignorance of the guardians / parents and improper treatment of the infectious diseases such as - influenza, typhoid, small pox, rubella (German measles), measles, meningitis and common respiratory afflictions etc.

Recently a group of experts sub-divided the HI people into four categories:

a) **Conductive hearing loss**: Conductive losses are common among children. It is the reduction in the loudness of the sound. The main cause may be the pathological changes in the middle ear owing to congenital or acquired abnormalities of the ear. Such abnormalities are amenable to surgical or medical therapy.

b) **Sensori-neural hearing loss**: Sometimes abnormalities in the inner ear or the auditory nerve result in loss of hearing. But it is rarely curable through surgical therapy. Hearing aids for amplification of sound has little to
do with this defect. Educational therapy may help a lot in this regard.

c) **Psychogenic hearing loss** : The cause of such disorder is purely psychological. The child presents greatly exaggerated symptoms of hearing impairment. Sometimes, the child may unconsciously develop hearing loss as an escape from what according to him is an intolerable situation.

d) **Central auditory defects** : These types of defects are extremely complex and their cause or pathogenesis is poorly understood. Such children seem to be aware of sound but are unable to discriminate its meaning. This causes severe communication problems. During infancy the percentage of such defects appear to be very high. It is very difficult to manage such type of children because they require extensive and prolonged individual therapy.

Following table shows another classification of HI children.

**TABLE : 4**

<table>
<thead>
<tr>
<th>Level</th>
<th>Types of Impairment</th>
<th>dB level</th>
<th>Speech discrimination</th>
<th>Percentage of Impairment</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>Mild</td>
<td>26 to 40 in better ear</td>
<td>100% in better ear</td>
<td>Less than 40%</td>
</tr>
<tr>
<td>II</td>
<td>Moderate</td>
<td>41 to 55 in better ear</td>
<td>50% to 80% in better ear</td>
<td>40% to 50%</td>
</tr>
<tr>
<td>III</td>
<td>Severe</td>
<td>56 to 70 in better ear</td>
<td>40% to 50% in better ear</td>
<td>50% to 75%</td>
</tr>
<tr>
<td>IV</td>
<td>a) Total deafness</td>
<td>No hearing</td>
<td>No discrimination</td>
<td>100%</td>
</tr>
<tr>
<td></td>
<td>b) Near total deafness</td>
<td>91 dB and above in better ear</td>
<td>-Do-</td>
<td>100%</td>
</tr>
<tr>
<td></td>
<td>c) Profound</td>
<td>90 dB and above in better ear</td>
<td>Less than 40% in better ear</td>
<td>75% to 100%</td>
</tr>
</tbody>
</table>
Causes of Hearing Impairment:

There are certain causes of hearing impairment which may be discussed below-

a) Causes before Birth (Prenatal):

Hereditary: 11% to 60% of sensory neural hearing impairments have a genetic cause (dominant gene).

Rubella: A German measles called Rubella virus has its devastating effect on the unborn child during first three months of the pregnancy. It accounts for 27% of all the known cause of hearing loss.

Infectious disease: Certain early infectious diseases like mumps, influenza of the mother, diabetes, kidney disease, etc. may affect baby's hearing capacity.

Drugs: Overdose of some strong drugs like streptomycin, quinine, thalichloride etc. are harmful and therefore, expectant mothers should remain away from these and should take medicine under doctor's prescription during this period.

Malnutrition: Malnutrition is another cause of this type of impairment.

b) Causes during Birth (Perinatal): During birth there are certain factors which affect hearing loss. Lack of oxygen, use of forceps in delivery followed immediately of jaundice, use of anaesthetic agents in delivery do cause hearing problems.

c) Causes After Birth (Post natal): The causes which affect hearing loss after birth in children are measles, mumps, whooping cough, meningitis,
typhoid fever, encephalitis, infection in nasal cavities, middle ear infection, ear discharge etc. Ear discharge is more prominent and common among the causes.

d) Psychological causes: Psychological and psychiatric reasons may also lead to hearing loss. Trauma, frustration etc. may sometime gradually lead to this disorder.

e) Neurological causes: The sensorineural hearing loss is associated with actual neurological transmission of sound. Accident and diseases may cause neurological problems which may lead to hearing loss after birth.

**FIGURE : 5**

**Structure of the Human Ear**

**Identification and assessment of Hearing Impairment:**

Identification of hearing impaired children has been easier now-a-day due to technological advancement. Following are some of the important
techniques for identifying hearing impaired children -

Development scale: ‘Bayley scales of Infant Development’ is very helpful for this purpose. This scale provides a basis for early diagnosis and corrective action in case of retarded development.

Neuropsychological Tests: Another important test is the assessment of neurological functions. Owing to cerebral dysfunction and brain damage, a good number of hearing impaired children have additional percepto-motor deficiencies. An expert clinician may be able to find certain signs in such children.

Medical Examination of the children: By this technique, a physician takes the general medical history of a child. He investigates the functioning and dysfunctioning of various organs related to audition.

Case study of the child: The psychiatrist may collect the data from the child directly or from a close relative of the child. Following points may be taken into account while collecting data -

- Identification of the child, i.e. name and address etc.
- Statement / symptoms of the present problem.
- Health history (illness, serious diseases etc.).
- Developmental history and
- Family history

Systematic observation of the child Behaviour: This method is very conducive and extremely useful for assessing the hearing impaired. The salient observation points are -
➢ Frequent ear eggs are observable.
➢ Hey turn heads on one side to hear better
➢ These children are unable to follow directions
➢ Request by the children to repeat the instruction always in the classroom.
➢ They focus specially on the speaker's lip.
➢ Always hesitate to participate in group discussions.
➢ Always restlessness, inattention and speech difficulty.

There are some behavioural indicators to identify HI children. Before the child is referred to an audiometric clinic, certain signs are visible. These are called behavioural clues, such as -

➢ Frequent ear aches
➢ Fluid discharge from ear
➢ Cold and soar throats occurring frequently
➢ Always asking 'what' - 'what' ?
➢ Observing the lip movement
➢ Speech defects
➢ Limited vocabulary
➢ Has trouble in paying attention
➢ Restless and lazy
➢ Over acting or withdrawal behaviour
➢ Undeveloped language
➢ Doesn't respond when called
1.2.3 Educational Provisions for the VI and HI Children:

A) Education of Visually Impaired Children:

The VI children on account of their impairments and deficiencies have specific limitations, needs and problems with regard to their adjustments and education, quite different from their non-disabled peers. They are so much handicapped in terms of mobility and movements that they cannot approach the things around them independently. Due to this deficiency they are unable to get first hand information and experience from the nature, books and similar other visual objects unlike their normal peers. The problem gets more acute and severe depending upon the degree of their visual impairment. Therefore, VI children needs special care, attention and educational provisions for their adjustment and education progress. Thus adequate care should be taken regarding educational provision of VI children regarding -

➢ educational placement.

➢ curriculum and learning provision provided to them, and

➢ orientation and mobility training.

Regarding Educational placement:

As it is known that there are two types of institutions available for the VI children namely, normal schools (govt. or private) and special residential schools.

For the adjustment and education of the VI children in the normal school set-up, generally, the following type of provisions may be made available in
these schools -

- **Regular Class Placement**: In this set-up VI children are taught along with the normal peers without any discrimination with essential adaptation carried out for communication and mobility.

- **Itinerant Teacher Programme**: In this set-up VI children receive most of their school education in irregular classrooms but have additional opportunity to get special instruction individually or in small group from an itinerant teacher, who works as an instructor and looks after the students by travelling from school to school.

- **Resource Room Programme**: Here, attending the regular classes with the normal peers the VI children are requested to attend the Resource Room Programme at scheduled intervals.

- **Full time special class**: Here also provision of full time special classes and activities providing formal instruction to the blind or children having low vision under the supervision and guidance of specially trained teachers is available.

**Regarding curriculum and its implementation**:

Curriculum implementation for the VI students essentially requires ‘enrichment’ i.e. inclusion of various learning experiences and opportunities for the development of specific concepts and skills besides core subjects. The elements of such ‘enriched’ or ‘plus’ curriculum can be clustered under the following six headings (Barrage and Erin, 1992).
1) Personal Competence

2) Orientation and Mobility

3) Communication skills (listening, speaking, reading & writing)

4) Vocational guidance & career development

5) Use of special aids & equipments like the following -
   i) Tape & cassette recorder
   ii) Record players & talking books
   iii) Personal computers & type writers
   iv) Braille
   v) Large type materials
   vi) Optional aids
   vii) Electronic reading & writing devices

6) Vision stimulation (i.e. maximum utilization of the residual vision capacity).

Regarding Orientation and Mobility training:

The VI children suffer seriously from the problems of getting oriented to one's environment and mobilization. Therefore, desirable attempts should be made in providing due orientation and mobility training through some meaningful instructional activities and experiences so that they get least trouble and restriction in their safe and effective moving.
The VI children should be helped in adapting themselves to the following four generally accepted orientation and mobility system -

- **The human guide**: In the human guide system the VI children may be trained to seek the assistance of their sighted peers or other people for helping them in their mobility.

- **Cane-travel**: This is a system that may help the VI children to travel independently with the help of a cane. The canes used now-a-days for this purpose are mostly made of aluminium and vary in length according to the users' height. The cane not only helps the VI children for searching their path but also for moving safely and effectively.

- **Dog guide**: In this system, help of a dog is taken as a guide by the VI for his mobility or travelling. However, the guide dog by itself cannot take a person where he wants to go. Therefore, the dog users should be provided adequate training for making use of the dogs as guides in their travelling.

- **Electronic travel aids**: These include a number of sophisticated electronic devices namely, the laser beam cane and sonic guide. Laser beam cane is an electronic device that emits three beams of infrared light (one up, one down and one straight ahead). These are converted into sound after hitting the objects in the path of a visually impaired. As a result, he may be able to get the signal of the objects or hurdles lying in his path.

  Sonic guide represents a sort of an electronic device while after being worn by a VI child on his head is capable of emitting ultrasound and converting reflection from objects lying in the path into audible sounds.
Types of Educational institution for VI students:

Underdeveloping countries like India, following two types of educational institutions are available for VI children -

- **Normal school setting** → where education can be provided to the children with low vision (capable of using their sense of vision in some or the other ways) by making necessary adaptation in the regular educational set-up by following the principle of inclusion and mainstreaming.

- **Special Residential Institution** → for totally blind and nearly totally blind, there are limited number of special residential schools in our country. These schools need proper educational and environmental modifications alongwith a proper teacher-pupil ratio which ideally should be 1:8.

  The curriculum and its implementation should be accordingly well in tune with the severity or the problems of visual impairments suffered by these students. Teachers of the special residential schools must be trained in Braille system.

The Braille System:

Braille, a tactile system of reading and writing was devised by a French musician Louis Braille, himself blind, in 1829. It consists of a code that uses raised dots instead of printed characters (Letters and numerals). A unit in Braille is called a cell. Each cell consists of six dots, three dots high and two dots wide. The dots are numbered from 1 though 6 and Braille alphabet is made of combination of these six dots. While reading the Braille script, the
readers are required to make use of their sense of touch. Usually reading is
done by both hands, one leading, the other following. After acquiring reading
skills, attempts are made for making the students learn Braille writing. Braille
is produced on a Braille writer, somewhat resembling a type of writer. It has
six keys corresponding to the six dots of the cells. Braille can also be produced
by using a special slate and stylus. Here students are required to emboss the
Braille dots one at a time by hand on a Braille slate with the help of a stylus (a
blunt needle).

Computer Technology has now introduced revolutionary changes in the
reading and writing of Braille. For the production of Braille literature, now the
help of computer Braille printers may be taken quite effectively. The printer is
known as Braille Embosser.

The materials available in books or classroom lectures and notes, etc. can
now be made easily available for the VI students in the Braille script with the
help of a Computer Braille Printer (Braille Embosser). The students can prepare
notes and assignments at home also with the help of personal computers and
portable laptop computer. The key board of such adapted computers has six
keys that correspond to the dots in a Braille cell, a numeric keypad, and a
joystick. Students can check their work by reading a dynamic tactile display
on the top of computer screen. They can also take help of the talk software
for this purpose. With this software, everything that is typed on the computer
is read out. After checking their work they may store it on a floppy or CD and
have its print both in the Braille through the Braille Embosser machine attached
to the computer.
B) Education of Hearing Impaired Children:

HI children need education like their normal peers for their academic development as well as for the development of their whole personality. Like VI students the needs and problems are just different and special in comparison to their normal peers. The difference and speciality by all means, as we can understand is the outcome of their hearing loss or impairments. As a result they primarily lack in the ability to use language and communication skills for educational purposes like the average. Following approaches may be employed for the development of desired communication skills among the HI children -

- Oral / Aural Communication Approach.
- Total Communication Approach.

Oral / Aural Communication Approach:

It is interesting to note that most of the deaf children have some residual (remaining) hearing. Therefore, it is essential to make use of oral language / speech signals for teaching of the HI. So, it emphasises to have purely an oral environment for the education and adjustment of the HI child at their home, school and other formal and informal learning situations. It totally discourages the use of manual methods like using gestures, sign language and speech, finger spelling etc. for the development of communication skills and to make use of residual hearing.

Oral / Aural communication approach advocates to use several means to
develop residual hearing and the ability to speak properly as possible. These may include: a) amplification of sound b) auditory training c) speech reading (also known as lip reading) d) use of technical aids, and e) more specifically talking.

**Manual Communication Approach:**

This approach advocates the use of manual methods like sign language, finger spelling and cued speech for developing the desired communication skills among the HI children. The use of these methods may be briefly illustrated below -

**a) Sign language:** It means a special language based on some visual signs. These signs are nothing but different gestures or manual codes designed through the use of hands, fingers and the arms for representing the words, ideas and concepts used in the process of communication. Among the different sign language systems invented so far, the ASL system is the most commonly employed sign language system.

**b) Finger spelling:** Finger spelling is the method of writing or expressing the alphabets of a language manually in the air through the use of the fingers of one's hands. Here, each word of the communication language is spelt out letter by letter through the help of the fixed position of one's fingers. As a consequence, in making communication in English language (having 26 alphabets), one has to make use of 26 distinct positions of his/her hand fingers (Figure: 6).
c) **Cued Speech**: This system of manual representation of speech was invented in 1996 by Dr. Orin Cornett Gallaudet College, Washington D.C. It utilizes eight different hand shapes (Figure: 7). Each of these eight hand shapes coupled with a location provides significant visual clues to the HI children in identifying sounds that cannot be distinguished through speech-reading.
**Total Communication Approach:**

The term TC Approach was first coined by Roy Holcomb, a deaf graduate of the Gallaudet University (USA), 1960. Total communication approach nowadays stands as one of the most accepted methods of instruction for the HI children. As a result, HI children are now taught by making use of number of communication modes -- aural/oral and manual such as sign language, finger spelling, speech, reading, speech and auditory amplification, writing, visual presentation etc. independently or in combination, depending upon the needs of the situations and individual learners. So, in simple words, total

---

**FIGURE : 7**

Speech pattern cued through different hand shapes

<table>
<thead>
<tr>
<th>Handshape</th>
<th>Conscript</th>
<th>Handshape code number</th>
<th>/Phonemes/ (&quot;pleonany&quot; phonem)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>1</td>
<td>/d, th, p/ (&quot;dh/a pp&quot;)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2</td>
<td>/th, k, v, z/ (&quot;the covers&quot;)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3</td>
<td>/h, r, v/ (&quot;horse&quot;)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>4</td>
<td>/h, lw, n/ (&quot;By when&quot;)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>5</td>
<td>/m, f, s/ (&quot;muffled&quot;)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>6</td>
<td>/w, j, sh/ (&quot;Wooah&quot;)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>7</td>
<td>/p, b, th/ (&quot;jugular&quot;)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>8</td>
<td>/ch, y, ng/ (&quot;Chas Yong&quot;)</td>
</tr>
</tbody>
</table>
communication may mean to assess each student individually and try to see how they learn and to use whatever is needed to help them.

**Educational placement consideration:**

The various educational placement alternatives (ranging from least restrictive to most restrictive) available for HI children may be named as follows:

- **Regular classes in the normal schools (total inclusion or mainstreaming):**
  
  In this set-up, HI children attend a regular school and placed with non-HI children in the regular classes for their education.

- **Regular classes cum resource room facilities (partial inclusion):**
  
  In such a set-up, HI children have to spend a part of their school hours in the resource room for meeting their special needs and problems.

- **Special classes within the regular schools (Segregation within the school):**
  
  Here, HI children are segregated from their non-HI peers and are placed in special classes by making group in accordance to their age, ability and interest.

- **Day schools specially meant for HI:**
  
  Here, facilities are provided for educating and taking care of the HI
children at day time. In such a set-up, the HI children can get facilities of residing with their families.

➢ Residential schools:

Here, necessary training and education for the adjustment and educational progress of the HI along with other HI children are provided by residing in the school campus. Facilities in terms of men and material resources are provided in these schools to the HI children for their education and adjustment.

Technological revolution has contributed several developed technological aids which may help the HI children to make adequate adjustment and educational progress in any particular educational placement set-up. Such type of advanced technological devices are -

- **Hearing aids** - helps in picking up sounds, magnifying its energy etc. These aids may differ in size, power or shape.

- **Cochlear implants** - it is helpful for the sensori-neural hearing loss. This is in fact a medical treatment where surgery is needed for implanting an electronic device in the cochlear of a HI child. It is like the implanting of a pacemaker in the heart.

- **Assistive listening devices** - sometime hearing aid may not serve all the purposes. So, assistive listening device technology may complete the task.

- **Alerting devices** - through these devices and appliances where signals
based on the use of other senses are employed for making the hearing impaired alert and activated.

- **Television and film captioning** - since the sound and dialogue of the television are not accessible by the hearing impaired, so provision is made for accessibility by captioning the subtitles or gist of the telecast items.

- **Text telephones** - formerly it was known as TDD. Today the concept is picked up momentum through the development of mobile phone technology.

- **Computer Technology** - many useful computer software programmes are now available for speech training, language development mathematics instruction and practice including science demonstration and experiments for the education of the hearing impaired.

1.2.4 **Concept of Special Education**:

Special education in its simple meaning stands for a type of education that is quite specific and special in nature. Thus through its name, it is capable of reminding us that it is somewhat different from the education meant for the general population of the students. So, special education may refer to a distributive type of education, specifically or specially designed for meeting the needs of exceptional or special children. Different issues related to the special children like the curriculum considerations, methods and techniques employed, placement considerations and teachers and other personnel associated with this type of education are all special.

Special education is meant for serving two types of objectives - the general objective, to be realized through any type of general education and the specific
objective, needed to be attained for meeting the special needs and requirements of the special / exceptional children.

There are a number of placement options or alternative provisions available for the education of special children like - residential institutions (e.g. residential special school, home bound education and hospital bound education), special day schools, special classes, regular classroom with resource consultant, regular classroom etc. All these options or provisions appear to fall in a continuum of special education in terms of the restriction of the learning environment, degree of exceptionality and cost effectiveness.

FIGURE : 8

Pyramid depicting a continuum of Education Services for special children
Nature and characteristics of special education:

Some of the nature and characteristics of special education are pointed below -

- meets the special needs and requirements of the special children.
- diagnostic in nature.
- also interventory as it aims to provide a purposeful intervention for preventing, eliminating or overcoming the obstacles.
- special education is developmental as it follows a child from womb to tomb.
- as it is specialised in nature, so it needs special teachers, special students, special methods, aids and special learning environment.
- it is highly individualized.
- it is intensive in the sense that all round total efforts are done at a quite intensive level for addressing the individualized specific needs of the special children.
- it is goal directed as it carries purposeful instruction and well-planned learning experiences to the children.
- it is research oriented and experimental in character.

1.2.5 Organisation and Administrative of special Education in India:

In India, two central ministries namely Ministry of Social Justice and Empowerment and Ministry of Human Resource Development, Govt. of India are responsible for the organisation and administration of the rehabilitat.
care and education for the children with special needs.

At the state level, the Organisation and Administrative of the task of care, education and rehabilitation of the children with special needs is carried out by the respective ministries of Social Welfare and Education. There is a provision of the State Coordination Committee (headed by Social Welfare Minister) and State Executive Committee (headed by State Secretary in the Ministry of Social Welfare) for carrying out administration and organisational functions for the welfare of the disabled children / persons. The work regarding the educational measures in the state for the children with special needs (including disabled) is the responsibility of Ministry of Education headed by a full-fledged Ministry of Education.

1.2.6 Concept of Integration, Mainstreaming and Inclusive Education:

a) Integration and Mainstreaming:

It is a system of Education, providing to the children in segregating settings of special schools and advocated to make provision for their education in the regular schools. Instead of putting the disabled children in separate special schools for their education, they are integrated with their non-disabled population. It can thus be safely called a proper step in putting the disabled / impaired children into mainstream. Mainstreaming is used to make integration of regular and exceptional children in a school setting. Both of them aimed to provide opportunities for normal and disabled children to share same school and even same class. However, whether used separately or interchangeably, the concepts of integration and mainstreaming both are closely linked to
traditional forms of special education delivery.

In 1970s, the Govt. of India launched the centrally sponsored scheme of IEDC. The scheme aimed at providing educational opportunities to learners with disabilities in regular schools and to facilitate their achievement and retention. Meanwhile, the NCERT joined hands with UNICEF and launched PIED in the year 1987 to strengthen the integration of learners with disabilities into regular schools. In 1997 IEDC was amalgamated with other major basic education projects like the DPEP and SSA.

**TABLE : 5**

**Enrollment of Disabled Children in schools under the Integrated Educational Programme (Stage : Primary)**

<table>
<thead>
<tr>
<th>Area</th>
<th>Management</th>
<th>Types of Disabled Children</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>VI</td>
</tr>
<tr>
<td>Rural</td>
<td>Govt.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Non-Govt.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Govt.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Non-Govt.</td>
<td></td>
</tr>
<tr>
<td>Urban</td>
<td>Govt.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Non-Govt.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Govt.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Non-Govt.</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>Govt.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Non-Govt.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Govt.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Non-Govt.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Govt.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Non-Govt.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Govt.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Non-Govt.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td></td>
</tr>
</tbody>
</table>

TABLE : 6

Enrollment of Disabled Children in schools under the Integrated Educational Programme (Stage: Upper Primary)

<table>
<thead>
<tr>
<th>Area</th>
<th>Management</th>
<th>Types of Disabled Children</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>VI</td>
</tr>
<tr>
<td>Rural</td>
<td>Govt.</td>
<td>996</td>
</tr>
<tr>
<td></td>
<td>Non-Govt.</td>
<td>262</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>1258</td>
</tr>
<tr>
<td>Urban</td>
<td>Govt.</td>
<td>604</td>
</tr>
<tr>
<td></td>
<td>Non-Govt.</td>
<td>736</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>1340</td>
</tr>
<tr>
<td>Total</td>
<td>Govt.</td>
<td>1600</td>
</tr>
<tr>
<td></td>
<td>Non-Govt.</td>
<td>998</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>2598</td>
</tr>
</tbody>
</table>


Inclusive Education:

Inclusive education implies synchronization of the educational needs of the normal children and the educational requirements of the children with special needs, so as to evolve a common curriculum with a view to provide education to all in regular schools itself. It is a flexible and individualized support system for children and young people with SEN. It provides an integral component of the overall education system and is provided in regular schools committed in an appropriate education for all.
The NCFSE, 2000 brought out by the NCERT, recommended inclusive schools for all without specific reference to pupils with SEN as a way of providing quality education to all learners. According to NCFSE: "Segregation or isolation is good neither for learner with disabilities nor for general learners without disabilities. Societal requirement is that learners with special needs should be educated along with other learners in inclusive schools, which are cost effective and have sound pedagogical practices (NCERT, 2000).

In 1990s, inclusion captured the field after the World Conference on Special Need Education in Salamanca in 1994, with the adoption of the Salamanca statement and framework for action on Special Needs Education. 92 Govt. and 25 international organisation in June 1994, has definitely set the policy agenda for inclusive education on a global basis.

Though in India, there is no formal or official definition of inclusion, it does not only mean the placement of students with SEN in regular classrooms. The draft scheme on Inclusive Education prepared by the MHRD (2003) uses the following definition -

"Inclusive education means all learners, young people with or without disabilities being able to learn together in ordinary preschool provisions, schools, and community educational settings with appropriate network of support services".

Keeping in view of different abilities showed by the disabled persons for which they are now called as "Differently-Abled" persons, the Hon'ble Minister, HRD, GOI, Shri Arjun Singh gave a statement to Rajya Sabha on March, 21 2005 regarding inclusive education of disabled children to meet the crisis of
special school as 'Sir, as promised in the august house during the last session of the Parliament, my Ministry has formulated a comprehensive Action Plan for the Inclusive Education of children and youth with disabilities .......... the Govt. is committed to providing education through mainstream school for children with disabilities in accordance with the provision of the Persons With Disabilities Act, 1995 (PWD Act of 1995). If this action plain is properly implemented then there will be no gulf between the normal and impaired children.

1.2.7 Legal rights and privileges of Persons With Disabilities and Indian Scenario:

The educational right of every child is proclaimed in the Universal Declaration of Human Rights (1948) and was strongly reaffirmed by the Jomtien World Declaration of Education for all (1990). Towards education of the disabled persons, the Standard Rules on the Equalization of Opportunities for Persons With Disabilities (1993) was an important resolution to improve the educational conditions of persons with disabilities. This had major implications for the Indian situation in the form of three Legislative Acts -


The RCI Act, 1992 is solely concerned with manpower development for the rehabilitation of persons with disabilities. The PWD Act, 1995 comprises 14 chapters and is a significant endeavour to empower persons with disabilities and promote their equality and participation by eliminating discrimination of all skills. It emphasizes the need to prepare a comprehensive education scheme that will make various provisions for transport facilities, removal of architectural barriers, supply of books, uniforms, and other materials, the grant of scholarships, suitable modification of the examination system, restructuring of curriculum, providing amanuensis to blind and low vision students, and setting up of appropriate forum for the redressal of grievances.

The National Trust Act, 1999 aims at providing total care to persons with MR, Autism and CP and also manages the properties bequeathed to the trust.

It has recently arrived with a much needed policy in the name of The National Policy for Persons with Disabilities in February, 2006, for the caring, education and rehabilitation of its disabled population, with an assurance of providing free and compulsory education to all children with disabilities up to the minimum age of 18 years by emphasising a need for mainstreaming them through inclusive education.

1.3 Need and Significance of the present study:

Many questions arise when one is considering the future of disabled children such as -

- Can he manage to learn the same school subjects like other children?
Will he pass the same examination or be left behind in his school work?

What will he do, if he does not get admission in a special school? Or, will he get a job after completing his minimum level of education? etc. etc.

According to UNESCO report about 90% of disabled children in developing countries are not getting school facility, not because they possess low caliber, but because, there is only a few number of special schools meant for the disabled people with limited enrollment capacity (maximum 150 per school) on one hand and no facility for inclusive education with normal children on the other. 5% of the total population are disabled people in the world and the total number of primary education age group children in our country is 4.3 million. So, keeping in view of the large number of disabled children in our country, about 10,000 special schools will be needed for this purpose. But it is shocking to note that there are only 144 schools for the VI and for the HI children the number of schools are only 153 in our country (urban and rural).

Till date the number of special schools are not increased and there is no special higher educational provision in our country meant for the disabled students. Therefore, the parents of the disabled children are always anxious about their chances of undertaking further education after school leaving examination or even finding a job that suit them after the leaving school examination. It has been seen that out of the all category disabled person, the VI and HI group of children are considered to be most traumatic because inspite of having the mental capability, they could not attain academic success
like the normal students, not because of their physical constraints, but because of poor educational provisions. They are one of the parts of country's human resources and our endeavour should be to empower these people by enabling them to contribute meaningfully to the mainstream of the society.

But, it is unfortunate that society continues to treat disability with apathy or at the best pity on one hand and revulsion on the other. Inspite of realisation and awareness about the needs of the physically and mentally disabled, the efforts made are inadequate. “Disability continues to fall in the realm of ‘social welfare’, but efforts are on to bring it into the realm of ‘Rights’, which is still a long way to go”\textsuperscript{14}.

Inspite of having the talents, these people are disadvantaged economically and socially since they come from poorer sections of the society. While their cost of living is higher due to the addition cost of aids and appliances. They also need manpower support on one hand and on the other, there is no adequate job guarantee for the disabled as the percentage of educated Disabled is very few in number. “Only about 5% of the persons with disability have been reached out by any kind of services”\textsuperscript{15}.

Therefore, it is the moral obligation of human race at large to provide proper educational inputs to bring about the exposure of Visually and Hearing Impaired children and their expertise can give a commendable boost in the nation building activity. By considering all these factors, the investigator felt the need of studying the Academic Achievement of the Visually and Hearing Impaired children of Assam on the basis of their HSLC Examination result.
1.4 **Statement of the Problem:**

In the light of the preceding discussion a study has been undertaken to see the academic achievement of the Visually and Hearing Impaired children of Assam. Although a considerable researches have been conducted on disabled persons, but in Assam a very few were significant so far as Academic Achievement of VI and HI students are concerned. There are many factors which may have positive or negative effect on the Academic Achievement of the impaired children like - degree of disablity, school environment, parental behaviour and awareness, facilities provided in the school, problems faced by the students as well as teachers, teachers’ effectiveness, method of teaching intelligence etc. Therefore, keeping all these influential factors in mind, the study undertaken has been entitled as:

"A STUDY ON THE ACADEMIC ACHIEVEMENT OF THE VISUALLY AND HEARING IMPAIRED CHILDREN OF ASSAM".

1.5 **Objectives of the present study:**

The main objective of this Research work was to study about the academic achievement of the Visually and Hearing Impaired children of Assam. However, some other influential factors had been taken into account which had certain positive and negative effects on students’ academic achievement. So the study was designed with the following objectives -

1. To study the Academic Achievement of Visually Impaired (VI) children.
2. To study the Academic Achievement of the Hearing Impaired (HI) children.

3. To have a comparative study of the Academic Achievement of the VI and HI children.

4. To study the involvement of VI and HI children in co-curricular activities.

5. To study the Parental Behaviour and Awareness (PBA) regarding the Education and Needs towards their Impaired and Normal children.

6. To study the influence of Teachers' Effectiveness on the Academic Achievement of the VI and HI children.

7. To study the wastage and stagnation rates of the VI and HI children.

8. To prepare a paradigm of action about the problems as perceived by the Teachers, Students & Parents.

1.6 Hypotheses:

On the basis of the objectives formulated following hypotheses were formulated -

1. The Academic Achievement of VI children is low.

2. The Academic Achievement of the HI children is low.

3. There is no significant difference of the Academic Achievement between the VI and HI children.
4. There is no significant difference between VI and HI children regarding involvement in co-curricular activities.

5. There is no significant difference of Parental Behaviour and Awareness regarding the Education and Needs between their Impaired and Normal children.

6. Teachers’ Effectiveness has significant impact on children’s Academic Achievement.

7. The wastage and stagnation rates are high among VI and HI children.

1.7 Operational Definition of the terms used in the study:

**Academic Achievement**: Academic Achievement to a large extent is an indicator of an individual’s potential, expertise & success. Academic Achievement is taken as the knowledge obtained or skill developed in the course subjects usually designated by scores, marks or grades. It helps in declaring the examinee as successful or unsuccessful and the successful are recognised to choose various professional & academic courses or jobs. Here in this study the result of High School Leaving Certificate (HSLC) Examination has been taken into consideration as Academic Achievement of VI and HI children.

**Visually Impaired (VI)**: VI are those who have significant loss of or defects in vision due to impairment in one or both eyes. According the Snellen Chart, when a person has to come within 20ft or near to see a letter clearly
before him which a normal person can see at a distance of 200ft, then the person is considered legally as Visually Impaired. His vision is assessed as 20/200 in the better eye. There are two types of Visual Impairment --

a) Partially sighted or low vision

b) The Blind

Here in this research work, the blind students’ academic achievements will be studied. The RCI Act 1992, has defined VI as - “A person who suffers from any of the following condition, namely -

a) Total absence of sight

b) Visual acuity not exceeding 20/200 (snellen) in better eye within the correcting lenses.

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

**Hearing Impaired (HI):** HI persons have hearing loss in one or both ears due to impairment in the auditory mechanism. According to ministry of Social Welfare, 1987 - “Those having hearing loss of more than 70 dB (decible) in both ears are known as profoundly HI”. According to dB level the HI are categorised as - mild, moderate, severe and profound.

**dB:** A unit of the measurement of relative intensity of the sound.

**Hertz (Hz):** A unit of measuring pitch of the sound.

**Teachers’ Effectiveness:** An effective teacher is a person who uses himself as an effective instrument for carrying out efficiently his own and
societies purpose (Combs, 1961). Here, in this study, by Teachers' Effectiveness it is meant some of the qualities required to be possessed by the teachers in order to bring about all round development of personality of the students including academic performance.

**Impairment**: A sort of abnormality or disturbance in the structure and functioning of our body system including psyche.

**Inclusive Education**: A type of education committed to educate every child (normal and disabled) to the maximum extent possible in the school or classroom. It stands for putting the disabled child in normal school along with the non-disabled peers in the regular classes.

**Legally Blind**: The individual having visual acuity of 20/200 or less in the better eye after correction with the glasses or contact lenses, or vision restricted to a field of 20 degree or less.

**Disability**: Functional deficit or limitation suffered by an individual as a result of Impairment.

**Handicap**: The inconvenience or the problem suffered by an individual on account of his impairment or disability in the interaction with his environment.

**HSLC**: High School Leaving Certificate Examination. The HSLC Examination is the first public examination held for the students after xth standard and in Assam, it is held under Board of Secodnary Education, Assam (SEBA).

**Parental Behaviour and Awareness (PBA)**: In the present study the
Parents’ Behaviour and Awareness in terms of Education and Needs of the impaired and normal children has been studied. Main objective of PBA is to see how much the parents are aware and how do they behave towards their both impaired and normal children.

**Children**: In the study the children mean, the VI and HI students studying in class VIII to matriculation (HSLC) Examination. Here, both the terms children and students have been used interchangeably.

**Sign Language**: A special language based on some visual signs (gestures or manual codes) for teaching communication skills to HI children.

**Mobility Guide**: The assistance or guide taken up by the Visually Impaired persons for the safe mobility or independent travel like - the human guide, dog guide, cane guide etc.

**Visual acuity**: A criterion used for labelling one as blind or visually impaired. It refers to one’s ability to see finer details or clearly distinguished forms at varying distances.

**Braille**: A code for writing letters, numbers and other language symbols with a combination of six raised dots. It can help the blind people to read with their finger tips as well as to write using special aids.

**Snellen Chart**: A chart consisting of rows of letters in graduated sizes or Es facing up, down, left or right for determining one’s visual acuity.

**Finger Spelling**: The method of spell out the alphabets of a language manually by various finger positions on one hand.
Perinatal: factors or condition prevailing at the time of birth.

Wastage and Stagnation: wastage means dropping out of pupils, i.e. leaving the schools before completing a particular stage. Stagnation means retention of a child in a class for a period of more than 1 year. In this study no wastage and stagnation rates have been recorded at school level. Therefore, the failure rates of the VI and HI children in HSLC Examination have been taken into account as the stagnation rates of the students.

1.8 Variables of the study:

Two main variables emerge from the title of the present study, they are -

1. Academic Achievement - Dependent variable.

The theoretical or conceptual background and the objectives undertaken for the study have suggested for inclusion of some other independent variables, these are --

3. Parental Behaviour and Awareness
4. Nature of Institution (Schools for VI children and schools for HI children)
5. Teachers' Effectiveness

The major Dependent Variable for the study is (1) Academic Achievement; because, the Academic Achievement of the Visually Impaired and Hearing Impaired children depends on all the above mentioned Independent Variables.
1.9 Delimitation of the study:

The present study was limited in terms of category of the students, levels of education, sample, geographical area etc. The specification of such limitation measures are given below -

a) Only the visually and hearing impaired students have been taken into consideration in the study. Hence the conclusions are not to be extended beyond these categories of students.

b) The samples were selected from 10 number of special schools meant for VI and HI students from 5 districts of Assam.

c) Academic Achievement in terms of the results of HSLC Examination of the VI and HI students who appeared Examination during the period from 2000-2008 had been taken into consideration.

d) To have knowledge about school environment, method of teaching used, interest in co-curricular activities and problems faced by the VI and HI students, the sample students were taken from those schools studying from Class-VIII to X.

e) The geographical area of the study is limited to 5 (five) districts of Assam, viz.- Kamrup, Nagaon, Jorhat, Dibrugarh and Lakhimpur. All the 10 (ten) number of VI and HI schools are situated only in these five districts of Assam.
References:


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5. UNICEF, Teachers' talking about learning (http://www.unicef.org/teachers last revised April, 1999).


15. Children in Globalizing India. HAQ : Centre for Child Rights by Dr. Madhumita Puri, 2002.