CHAPTER-1
INTRODUCTION

Intellectual challenge is a multi dimensional phenomenon which involves overlapping of psychological, educational and social aspect of human functioning and behaviour. In other words, this term may be used to define those persons who are considered to be less educated, brain damaged or with inferior genetics. They are supposed to have below average cognitive ability. Such children come from all levels of society, social groups and ethnic groups. According to American Association on Mental Deficiency (AAMD), these children are unable to make adequate adjustments to many walks of life because of their limited intellectual and adaptive capacities. They are deficient in general intellectual abilities and are unable to care for themselves. Their disruptive behaviour may be so severe that they require assistance, care and protection in excess as compared to average children.

The term mental retardation or mental retarded was coined in the middle of 20th century as a replacer of the existing terms which have become offensive (Cummings et.al., 2005). Later on by the end of 20th century, these terms themselves became politically incorrect. As a result, the term 'intellectually challenged' or 'intellectual disabilities' are commonly advocated in the most English speaking countries. But in clinical terminology, 'mental retardation' is subtype of intellectual disability. Other commonly used terms are mentally handicapped, slow learner, backward, dull and dull normal.
In simple words, a disability is difficulty in performing common activities. These activities are in accordance with the subject’s age, gender and social role, which are being accepted as essential basic components of daily living such as self care, social relations and economic activities (WHO, 1976). A disabled person is any person unable to ensure himself or herself a normal life because of deficiency in his or her Physical or Mental capability (U.N. General Assembly Resolution, 1994). Kohli et. al. (1984) stated that an intellectually challenged child has significantly less intelligence or mental ability when compared to the child of same age group. Such children cross their milestones later and experience difficulties in their social adjustment. The dictionary of Psychology and Psychiatry by Loggman (1984) defined intellectual challenge as ‘a disorder characterized by significantly sub average general intellectual function i.e. an IQ of 70 or below with impairment in adaptive behaviour (including thinking, learning, social & occupational adjustments) and manifested during the developmental period i.e. below 18 years’.

Herber (1959) defined intellectually challenged as the person having sub-average general intellectual functioning, which originates during the developmental period and is associated with impairment of adaptive behaviour. Wechsler & Terman (1968) have considered those intellectually challenged who scored below 70 on the intelligence test. While Benda (1954) stated that “an intellectually challenged person is the person who is not capable of managing his affairs himself or is being taught to do so and who requires supervision, control and care for his own welfare and the welfare of the Community.” According to Sarason & Dorris (1969) “intellectually challenged refers to
individuals who function intellectually below the average of their peer groups". Bijoi (1963) stated that "A retarded Individual is one who has a limited repertory of behaviour evolving from interactions of the individuals with his environmental contacts which constitute his history."

1.1 Classification of Intellectually Challenged Children

The level of instructions intellectually challenged need in order to learn characterizes them. These instructions are provided in regular classrooms, sheltered workshops and other specialized settings. To some extent, the level of functioning of intellectually challenged children is determined by availability of training or instructional technology and amount of resources society is willing to provide. Literature indicates that one in every ten children is born with or acquires a physical, mental or sensory impairment. But in developing countries, where most of the world’s children live, not much is being done to prevent either the occurrence or the frequency of impairment. Due to this, the size and severity of the intellectually challenged children’s problem exist on the top in the developing countries, whenever we have a glance on disabilities.

The intellectually challenged individuals are classified according to the severity of their problems. The most accepted approach is to consider the American Association on Mental deficiency (AAMD) system, which uses the terms mild, moderate, severe and profound for classifying the different degrees of retardation.

The IQ range for mild retardation is considered to be between 50-55 to approximately 70; for Moderate retardation it is between 35-40 to 50-55; for severe mental retardation it is
between 20-25 to 35-40. In case of profound retardation it is below 20 or 25. A narrow band at each end of level has been used to indicate clinical judgments about all information, including the IQs. The information from other sources has also been invited for this purpose. Thus, someone whose full-scale IQ is 53 might be diagnosed as either mild or moderate depending on other factors such as verbal IQ, relative difference in performance or results of other tests (Grossman, 1983).

The American Psychiatric Association has classified mental deficiency as follows

<table>
<thead>
<tr>
<th>Degree of deficiency</th>
<th>IQ range</th>
</tr>
</thead>
<tbody>
<tr>
<td>i) Mild Mental deficiency</td>
<td>70 to 85</td>
</tr>
<tr>
<td>ii) Moderate Mental deficiency</td>
<td>50 to 69</td>
</tr>
<tr>
<td>iii) Severe Mental deficiency</td>
<td>0 to 49</td>
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Educational classification of intellectually challenged does comprise the following labels (whenever it is employed in educational institutions).

<table>
<thead>
<tr>
<th>Level</th>
<th>IQ range</th>
</tr>
</thead>
<tbody>
<tr>
<td>i) Educable</td>
<td>50 to 69</td>
</tr>
<tr>
<td>ii) Trainable</td>
<td>25 to 49</td>
</tr>
<tr>
<td>iii) Custodial</td>
<td>below 20</td>
</tr>
</tbody>
</table>

An educable intellectually challenged child is characterized by academic retardation rather than by emotional and behavioural problem. The reasons for his retardation may lie with him, with the teacher, with the schools system or with his family or more of these. A trainable intellectually challenged child is one whose social prognosis is sheltered living. Such child needs supervision
for his entire life. Custodial case is one who is usually unable to achieve sufficient skills for basic needs and requires life time care and supervision.

Diagnostic and statistical manual of mental disorders described the different levels of intellectually challenged ranging from mild to profound. Those with mild retardation are able to be educated and appear to be no different from the children without mental retardation until late teens. Those with profound retardation may have neurological conditions that account for their disability. They are easily recognized in their early childhood and need special education in order to learn basic motor and communication skills.

The intellectually challenged can also be classified according to their gross physical characteristics-

1. **Garden variety 'Familial type'**- In all physical regards they appear like everyone else. But whenever assigned with any intellectual task, they perform in such a manner that is not appropriate to their chronological age i.e. much less than their age group.

2. **Microcephaly**- The individual has an abnormal by small head. The brain does not find much space to get expansion. So, the brain development is sub normal.

3. **Hydrocephalous**- Due to accumulation of abnormal amount of fluids, the size of brain enlarges but the face and body remain normal in size.

4. **Cretinism**- At birth, the child seems to be normal but after sometime she/he shows signs of sluggishness and apathy. Growth is stunted; hands and feet are stumpy and malformed.
A flat nose, widely spaced eyes, thick lips, dry skin & hair, a large protruding tongue and flappy ears characterize the face. This condition is due to deficiency of thyroid gland function. The child may be born with complete absence of thyroid gland.

5. **Mongolism**- Now a days, this term is replaced by 'Down's syndrome'. Such type of baby is born with reduced body size, head size and some physical characteristics which are well observed at the time of birth. Such babies have slanting eyes, small ears, thick tongue, thin lips, misshaped teeth, stumpy hands and feet and small head with small brain. The major cause of this abnormality is presence of 47 chromosomes instead of normal 46 found in human beings.

According to World Health Organization, intellectually challenged are divided into two classes on the basis of etiology.

(a) Intellectually challenged where the problem is of socio cultural origin. When the educational and social performance is marked by a lowered level than would be expected from their intellectual abilities.

(b) Intellectually challenged where mental capacities themselves are diminished as a result of pathological causes as opposed to environmental causes, which may lead to mental retardation.

1.2 **Etiology of Intellectually Challenged Children**

On the basis of the age of onset of impairment, the causes of intellectual challenge can be divided into two-

(A) Congenital

(B) Environmental
1.2.1 Congenital Factors

It involves both genetic and non-genetic causes.

a) Genetic Causes- It is apparent that most of the intellectually challenged children have some kind of genetic disturbances. This may be due to inbreeding or isolation, which are more frequent in developed Countries. It is well known that the fertilized ovum contains 23 pairs of chromosomes coming in the egg cell from each parent. Sometimes there is presence of some extra chromosome; which is responsible for largest number of Mongols. At other times, the genes responsible for critical development of the brain may be defective in one or both parents at the time of fertilization. Daily (2000) observed that 25 percent of disabilities are due to genetic causes.

b) Non-Genetic Causes- These Causes are more frequent in the developing countries than developed countries. It has been reported that 35 percent of new born in India and Sri Lanka have birth weight below 2.5 kg (Ramachandran, 2000). Malnutrition and severe anemia during pregnancy affect foetus growth and mental development. Communicable diseases in pregnant women affect a large number of developing foetuses. Pathological Conditions caused by biochemical disorders can damage the brain. Traumatic experiences and physical agents can cause brain damage in a baby before or after birth. Too short or too long length of pregnancy can also cause mental deformities.

1.2.2 Environmental Factors

About 80 percent of intellectually challenged condition is contributed by environmental factors, which include the following.
(a) **Pre-natal hazards** - nutrition of the mother, maternal infections, may be viral, bacterial or protozoanal, maternal age below 16 or above 35 years, emotional status of mother, exposure to radiation and RH factors etc.

(b) **Peri-natal hazards** - Pre mature birth, trauma, difficult labour etc.

(c) **Post-natal hazards** - Typhoid, encephalitis (inflammation of brain), tonsillitis, convulsions, meningitis etc.

The number of persons suffering from any type of abnormality depends on the cut off point of IQ as well as validity and reliability of methods adopted. Up to some extent, the community resources and willingness to accept the problem also play a vital role. The ‘low grade’ cases or ‘pathological’ abnormalities, which are basically due to genetic causes, are diagnosed in early stages. The degree of certainty in such type of cases is quite high. Holmes (2000) stated that in USA, 2-3 percent people are affected by mental retardation and 75-90 percent among them are with mild retardation.

In India, common chronic infections like tuberculosis, malaria, mal absorption syndrome, diabetes mellitus, hypothyroidism, growth hormone deficiency, metabolic disorders, and congenital or acquired heart disease are the commonly occurring diseases. The secondary effects of these may inhibit the normal growth of body causing stunted growth or impairment in intelligence i.e. inadequate mental development throughout the growth period. Intelligence is the ability to think, learn and understand new things and to solve problems. An intellectually challenged or handicapped child has significantly less intelligence or mental ability when compared with the children of
the same age (kohli et.al., 1986). A child or a person who is
mentally retarded has slow maturation (cross their milestones
later), less learning capacity and experiences difficulties in social
adjustment. The other common factors responsible are nutritional
deficiencies during pregnancy, malnutrition during first, second
year of life, delayed or difficult labour, chronic illnesses,
infections of brain, head injury and untreated epileptic fits.
However, some cases are due to certain errors of metabolism or
endocrinal disorders.

1.3 Developmental Handicaps of Intellectually Challenged
Children

Kothari (2010) defines the persons with disability as
'anyone having 40% disability or more in seven specific
categories which are locomotor disability, blindness, low vision,
hearing impairment, leprosy affected, mental illness and mental
retardation'.

Developmental handicaps may involve only certain
faculties e.g. hearing, vision, language, motor coordination or
fine motor skills. Hearing is the principal sensory pathway
through which speech and verbal communication develop.
Learning and other aspects of maturation are also influenced by
hearing. Impaired hearing may not be obvious in early days. As a
result, the child may not sense or express his difficulty that is
why, diagnosis is often delayed. The human ear responds to
frequencies of sound ranging from 20 to 20000 hertz. Even in so
called deaf child with most profound impairment of hearing,
some residual hearing is generally present, particularly in the low
frequencies. Hearing defects can be congenital or acquired.
Prenatal infections like rubella, prematurity, low birth weight,
malnutrition and a number of local infections are common causes of hearing impairment. Visual impairment is another very important developmental handicap which can hamper learning and development in other areas. In our population, nutritional deficiencies especially of Vitamin-A and infections like Trachoma share largest portion of acquired visual anomalies. Another uncommon but very important developmental handicap is 'infantile autism,' a type of pervasive developmental disorder of childhood. Onset of this disorder is before 30 months, child shows lack of responsiveness to other human beings e.g. avoidance of eye-contact, failure to cuddle and smile.

Some times the deficiency in development may be present in speech or language as well as in motor coordination. In developmental speech disorder, the main feature is a serious impairment in the development of speech language, but can not explicable in terms of general intellectual retardation. Most commonly there is a defective articulation in which speech is characterized by omissions, distortions or substitutions of speech sounds. There may also be a delay in development of spoken language. Developmental handicaps can lead to a number of problems, which may manifest in different forms like-

- Delayed growth and development
- Emotional and behavioral problems
- Problems in learning
- Family and Parental problems

1.3.1 Delayed Growth and Development

In such type of handicapped children, growth is delayed. The child achieves various milestones at a later age as compared
to his able-bodied counterparts. However, the extent of delay and type of milestones involved depend on the type and severity of handicap (Kohli et. al., 1984).

1.3.2 Emotional and Behavioral Problems

The handicapped children are prone to develop a number of emotional and behavioural problems secondary to their handicap. Many mentally retarded children are unable to process and adapt to the levels of sensory stimuli. A rising intensity of such stimuli is perceived by the child as disturbing or even painful and can lead to behavioural disorganization. Typical example is auditory hypersensitivity, in which child may perceive noises and loud voices as painful. Infants with this handicap become upset when exposed to the sounds of radio, television or electric shaver. Others cannot tolerate visual stimuli such as bright and strong colours. A failure to recognize these handicaps and to adjust the handling of children may lead to behavioral disturbances such as hyperactivity, irritability, avoidance and aggressive behavior.

A hyperactive handicapped child because of his restlessness and short attention span has difficulties in behaviour and is disruptive to the functioning of any group whether in family, playground or in classroom. The reaction of group members to such disruption may be one of rejection, exclusion, punishment or disorganization of the group itself. Irritability may be pervasive, always present or may be a provoked one. Some children start avoiding situations involving intense stimulation, anxiety or frustration. They develop a capacity to tune out the environment and remain unresponsive. Sometimes the handicapped child resorts to aggressive behavior, which may take form of pain, aggression, directed indiscriminately towards any
body approaching the child or only towards certain people, adults or children, familiar people or strangers.

1.3.3 Problems in Learning

A handicapped child being limited by the handicap has difficulties in learning. For example, in case of sensory handicap like hearing or visual defect, he has difficulty in perceiving stimuli. In intellectually challenged children sub average intelligence leads to slow learning.

1.3.4 Family and Parental Problems

The parents of an intellectually challenged child react with feelings of guilt, anxiety, hostility and insecurity. Most parents experience considerable tension and anguish at the time of initial diagnosis. By which they may cause a weaning of the habitual defense system and a temporary breakdown of adjustment patterns, which is extremely crucial and may have a deciding influence on the parents' handling of the child in the future. Heifeiz (1977) emphasized the need of training the parents of retarded children. The outcome of his study revealed that the groups treated by trained parents do well in their self help skills over the control group. The ultimate impact of the intellectually challenged child on the family depends on several factors such as degree of retardation, the personality development and the life adjustment of each parent. Moreover, before the arrival of intellectually challenged child, the degree of their professional and social success, the adequacy of the marital adjustment, other children in the family as well as their intellectual progress and the parental socio-economic status are quite important. If the parents are emotionally immature, the intellectually challenged child may precipitate a crisis that sometimes leads to family
breakdown. The difficulties of an intellectually challenged child may contribute to the crisis, particularly if management is complicated by hyperactivity, excessive irritability or other distressing and hard to control manifestations. He may be in the role of the family scape-goat, destined to drain off family tensions.

1.4 Magnitude of Intellectually Challenged Condition

It is difficult to estimate the true prevalence of various intellectually challenged children, as there is no precise definition of the intellectually challenged. However, about 3 percent of pre-school population is mentally retarded, one third of which not be able to care for themselves and therefore, dependent on others fully, while others will be only partially handicapped and need additional help. As a rough estimation, about 5 percent of school population suffers from one or other types of handicaps, and prevalence in the pre-school population may not be very different. United Nations Development Programme (1996) also estimated global average of disabled as 5 percent. NSSO survey (2003) illustrated the following data on disability-

<table>
<thead>
<tr>
<th>Year</th>
<th>Total Population (In Millions)</th>
<th>Disabled Population (In percent)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1981</td>
<td>12.0</td>
<td>1.8</td>
</tr>
<tr>
<td>1991</td>
<td>16.5</td>
<td>1.9</td>
</tr>
<tr>
<td>2002</td>
<td>18.49</td>
<td>1.9</td>
</tr>
</tbody>
</table>

Khan (2011) have pointed that India is home to largest population of disabled people in the world and possibly second to China. Lack of reliable figures regarding children living with disabilities and the different types of disabilities they face has
been an obstacle in planning and making adequate interventions. Prevalence at birth represents only part of the total prevalence of birth defect because many conditions are not recognized for months or even years after birth. Daily & Ardinger (2000) identified 2.3 percent of people with mental retardation. Among them 75-90 percent have mild retardation, while 30-50 percent cases are of non syndromic mental retardation and about a quarter of cases are caused by genetic disorder.

Census of India (2011), Government of India, Ministry of Home Affairs reported the following figures about disabilities.

**Table 1.1**

**Number of Disabled Population and Type of Disability**

<table>
<thead>
<tr>
<th></th>
<th>Population</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Population</td>
<td>1,028,610,328</td>
<td>100.0</td>
</tr>
<tr>
<td>Total Disabled Population</td>
<td>21,906,769</td>
<td>2.1</td>
</tr>
<tr>
<td>Disability Rate (Per Lakh Population)</td>
<td>2,130</td>
<td></td>
</tr>
<tr>
<td>Type of disability</td>
<td></td>
<td></td>
</tr>
<tr>
<td>In Seeing</td>
<td>10,634,881</td>
<td>1.0</td>
</tr>
<tr>
<td>In hearing</td>
<td>1,640,868</td>
<td>0.2</td>
</tr>
<tr>
<td>In movement</td>
<td>6,105,477</td>
<td>0.6</td>
</tr>
<tr>
<td>In Mental</td>
<td>2,263,821</td>
<td>0.2</td>
</tr>
</tbody>
</table>

Census (2011) has revealed that over 21 million people in India are suffering from one or the other kind of disability. This is equivalent to 2.1 percent of the population. Among the total disabled in the country, 12.6 million are males and 9.3 million are females. Although the number of disabled is more in rural area than urban area. Such proportion has been reported between 57-58 percent for males and 42-43 percent for females.
Disability in seeing as (48.5%) emerges as the top category followed by in movement (27.9%); mental (10.3%); speech (7.5%) and in hearing (5.8%).

1.5 Screening/Identification and Assessment of Intellectually Challenged Children

There is a need to identify the intellectually challenged at the earliest. All the handicaps irrespective of the cause, are taxing to the child, his parents and the teachers. The resulting conflicts may lead to development of serious psychiatric disabilities. Then, despite a normal intellectual potential, the children may function on a retarded level if continued in an unsuitable school programme. Hence, the need for an early diagnosis is quite urgent and relevant. Arya (1991) emphasized upon screening of pre-school children for early identification of developmental disability in rural area.

A number of sensory handicaps like hearing or vision, stunted growth and moderate to severe mental retardation may be obvious to the parents, but milder handicaps require more careful observation and expert opinion. The most important task is to differentiate mental retardation from other handicaps. A handicapped child shows delay in achieving various milestones depending upon the type of handicaps. Assessment of intelligence and various aspects of behaviour of intelligence (motor, adaptive, personal and social behaviour and language) form the basis of diagnosis.

Generally intellectually challenged children are unrecognized until the second or third year of life. The children may look normal at birth and retardation may not even be suspected. In beginning, the children often fail to smile and to
respond to the overtures of their parents. As the children grow, delays in their motor and speech development become progressively more apparent. Many parents are bewildered by this unexpected phenomenon and seek professional advice. While some other are not aware of child's handicaps and have expectations from the child like those of a normal one. They feel frustrated, when diagnosis is disclosed. Early diagnosis calls for a greater familiarity on the part of pediatricians and family physicians with normal and abnormal signs of physical and social development in the child.

1.6 Training of Intellectually Challenged Children and Parents

It is also very important for the professionals who deal with the children to be familiar with the special problems of intellectually challenged children. The successful management of such a child depends normally on the social, academic and home adjustment that he/she achieved.

Intellectually challenged child should receive the opportunities and care that are available to all children in the community. The trainer and parents should help the child to make use of his abilities as effectively as possible and become as socially acceptable and self sufficient as his limitations permit. Opportunities for learning regarding social and group experience and for achievement of self-discipline should be provided. The child with multiple handicaps is rarely capable of achieving a high degree of independence; in that case, trainer must interpret the child's behaviour to those who are in regular or occasional contact with him. Every effort should be made to minimize secondary handicaps in personality development, so that they do not become more serious than the primary defect.
Engaging the child in shared activities is probably the most effective way to establish a meaningful relationship. We have to establish firm limits and adhere to them consistently. Verbal and non-verbal reassurance and praise should be used generally. Situations should be set in such a way that permits the child to succeed. In addition, concrete evidence of affection in the form of small gifts, toys and candy or trips to market, park or a playground are helpful. Principles of Behaviour-modification should be used. It includes several steps pinpointing the observable behaviour, recording the frequency of that behaviour, changes in behaviour and reinforcing either positively or negatively (extinction) the target behaviour. The behaviour shaping involves fixing the target dividing target tasks into small parts and then teaching one part at a time and rewarding each change. Positive-reinforcement involves a system of rewards that may be tangible, such as food or candy or intangible such as praise.

A pilot study undertaken by Kumari et.al. (2009) for children in need of special care in Mumbai found that those children who were offered training by parents had greater improvement than those whose parents had low involvement. Most parents need an understanding and supportive physician who does not consider his role as completed as soon as he announces the diagnosis but who remains involved, helping the parents to share the burden of a handicapped child. Parents' reactions to an intellectually challenged child depend on the extent to which they feel their competency, social standing and anticipate the way of life to be threatened by the handicaps. Most parents initially attempt to deny the reality of the handicapped condition particularly if it is not obvious physically. This is
followed by frustration, self-accusations and guilt feeling. At this stage simple explanation, support and guidance for the family are quite important.

The initial explanation of the facts about the intellectually challenged child should be made to the parents in as simple way as possible. Questions should be answered simply, reassurance be given to minimize guilt feeling and the importance of time in determining developmental ability of the child should be stressed. Long-term prognosis and planning should be left on future and emphasis should be on immediate problems and symptoms.

Grandparents and other relatives, who may be involved in family affairs, should be brought into explanations so that parents' efforts with the child will be ensured. Care should be taken to assure the siblings an equal share of parents' time, attention and interest.

The intellectually challenged condition reduces the child’s potential for normal functioning. Sensory deficits, especially of vision and hearing require correction whenever, possible and special training if the damage is irreversible. Blind, deaf or aphasic children do better in specialized centers, with special training and educational facilities than in general treatment centers. Children with motor difficulties often require orthopedic services and physical therapy. The goal should be to prepare the child for future satisfactory life and helping him to develop his full potential.

1.6.1 Center/Institution based care and use of community resources

The effective use of local centers/Institutions, community resources such as public health nurses, aanganwaries, day care
centers, crèches, special schools, voluntary health agencies and temporary boarding homes support the family and facilitate to achieve the target for trainer who is treating or training the handicapped child. For less severely handicapped children, the physician should assist the family to get appropriate help from special schools. But in severe handicaps, the demand of support away from home arises. So the physician/trainer is in a unique position to interpret to parents and others in the community the special problems faced by the child with a handicap. Greater attempts should be made by professionals, para professionals and non professionals to provide services in a variety of areas. Such personnel can be given special training and orientation courses to deal with the handicapped children.

1.7 Child Development

The birth of a child is a blessing for the family from the day child is conceived. Then given birth and seeing his or her growth, is an experience of immense pleasure. However, the general pattern of both growth and development varies from child to child, but the landmarks remain same for all. Growth generally refers to the physical aspect – the quantitative – the unfolding of the genetic blueprint – both external and internal. Development, on the other hand, includes processes like maturation and learning. According to Hurlock (1972), it is a progressive series of orderly, coherent changes leading towards the goal of maturity. Progressive, here means the changes are directional and forward moving rather than backward. The term orderly reflects the relationship of one stage with another. According to Gessell (1952), Development is more than a concept. It can be observed, appraised and to some extent even
measured in three major manifestations (a) anatomy (b) physiology (c) behavioural.

Hurlock (1972) has divided these changes into four major classes i.e. i) changes in size ii) changes in proportion iii) disappearance of old features iv) acquisition of new features. Freud (1923) put forward ‘Psychosexual stages of development’. A parallelism could be drawn between Freud and Erickson (1950). The two models subscribed by them were the best in understanding the process of child’s development. Piaget (1954) worked out ‘Cognitive Developmental theory’ which forms the backbone of many pedagogical methodologies. Social learning theories of child development assumed that the child does not just mature or unfold its genetic code, rather the child is also a product of socio-cultural milieu, in which he or she lives and grows. The ecology and environment in which the child lives, effect his or her growth and personality. According to Bandura (1967, 1977) children learn by modeling as initiation behaviour, or observational learning. Most of their learning is the result of copying the adult behaviour. Later on, he further added that children have a social cognitive learning. It means that children watch adults than think about it, assimilate it, conceptualize it for themselves and then make it part of themselves.

1.7.1 Stages of Child Development

Birth to 1 year – Basic activity is suckling. If this oral need is not fulfilled, the individual may start thumb suckling, finger nail biting, later on smoking, overeating as described by Freud. While Erickson prescribed stages of development do comprise warmness and responsive care, which give the infant warmness, and a sense of trust & confidence respectively.
1-3 Years - Freud described child development as – 'children enjoy holding and releasing urine and faces. So, toilet training is a major issue. Improper training may lead to conflicts, extreme orderliness & cleanliness'. While Erickson narrated it as – 'a sense of ambition and responsibility develops when parents support their child’s new sense of purpose and direction. When parent demands too much control, a sense of guilt occurs'.

3-6 years – Freud explained it as – id impulse transfer to genitals & by its stimulation, young children feel a sexual desire for the opposite sex parent. As a result, to avoid punishment super-ego is formed; the two major complexes experienced are ‘Oedipus’ & 'Electra’ conflicts. While Erickson described that a sense of ambition and responsibility develop when parents support their child, new sense of purpose and direction. When parents demand too much control, a sense of guilt occurs if the development has been hampered due to one or other reason, then the children are victims of intellectual challenged condition. These handicaps in development may be in the form of stunted growth, mental retardation or may involve certain specific faculties like hearing, vision, language etc.

1.7.2 Developmentally Challenged Children

The main proportion of such types of children is being contributed by short stature, leading to a number of secondary handicaps. The deficiency in development can be global or may involve certain specific faculties. Short stature can be due to a multitude of causes but commonly in our setting it is due to nutritional deficiency. The nutritional deficiency in the mother during antenatal period can also give rise to stunted growth of the
child. Other than this, the chronic infections like Tuberculosis, Malaria, Pyelonephritis and Malabsorption syndrome play an important role. Certain types of disorders like endocrinal disorder, diabetes, hyperthyroidism, growth hormone deficiency, metabolic disorders and congenital and acquired heart disease can also give rise to stunted growth.

Intellectual challenge is another common handicapping condition which implies impairment in intelligence from early in life and inadequate mental development throughout the growth period. Intelligence is the ability to think, learn and understand new things and to solve problems. An intellectually challenged child has significantly less intelligence and mental ability than the children of same age. A child or a person who is intellectually challenged has slow maturation, learning capacity and experience difficulties in social adjustment.

After birth, the child can only gradually develop the function of sensing things or events as his skeletal, muscular, neurological growth and development take place. So, also develops the area of his/her gaining experience through his sense organs because age increases/develops his sense organs, his mobility and capability to handle things with increasing skills in varied ways. Development of language is most important in the process of development. As the child's perception increases, his mental abilities and expression also increase accordingly.

In spite of individual differences in growth and development, there is a common pattern of growth and development which works under six principles-
1. The principle of common direction of growth and development.
1.8 Motor Development

Motor Development is an important aspect of child's overall development. It helps the child in becoming independent and self-confident, which add to his self-concept and personality development. It provides the child with a source of amusement and a means of entertaining himself by playing with his toys or other plays. It requires the use of muscles and the ability to control without help from others through his motor development. The central nervous system grows marvelously and its abilities to perform actions go on increasing till it can perform very complex actions.

Development of motor abilities is related to individual’s personal and social adjustment. Some motor skills seem to develop automatically as a result of maturity, but in their development, too, the role of practice happens to be quite significant. Thomas (1978) stated that motor skills are complex and involve almost every aspect of child's psychological status. Motor skills continue to be highly influential in the social values of growing children. Chew (2005) studied the social curiosity of Chinese mothers and stated that “For more than 1000 years most of mothers in China deformed their daughters’ feet to give them the walking gait of a tender young willow shot in a spring breeze".
The development of motor abilities is important in the psychological adjustment of children. Children with serious deficiencies in motor skills suffer generally in their social acceptability to their peers. Gessell did work classically in motor developmental area and tabulated the following activities of motor development in accordance with their age.

**Gross Motor**

<table>
<thead>
<tr>
<th>Age</th>
<th>Milestones</th>
</tr>
</thead>
<tbody>
<tr>
<td>3 Months</td>
<td>neck holding</td>
</tr>
<tr>
<td>5 Months</td>
<td>sitting with support</td>
</tr>
<tr>
<td>8 Months</td>
<td>sitting without support</td>
</tr>
<tr>
<td>9 Months</td>
<td>standing with support</td>
</tr>
<tr>
<td>10 months</td>
<td>walking with support</td>
</tr>
<tr>
<td>11 months</td>
<td>growling (Gripping)</td>
</tr>
<tr>
<td>12 months</td>
<td>standing without support</td>
</tr>
<tr>
<td>13 months</td>
<td>walking with support</td>
</tr>
<tr>
<td>18 months</td>
<td>running</td>
</tr>
<tr>
<td>24 Months</td>
<td>climbing staircase</td>
</tr>
<tr>
<td>36 months</td>
<td>riding tricycle.</td>
</tr>
</tbody>
</table>

**Fine motor**

<table>
<thead>
<tr>
<th>Age</th>
<th>Milestones</th>
</tr>
</thead>
<tbody>
<tr>
<td>4 years</td>
<td>Grasps a rattle or rings when placed in hands.</td>
</tr>
<tr>
<td>5 years</td>
<td>Reaches out to an object and holds it with both hands.</td>
</tr>
<tr>
<td>7 years</td>
<td>Holding objects with crude grasp</td>
</tr>
<tr>
<td>9 years</td>
<td>Holding small objects, like a plate between index finger and thumb.</td>
</tr>
</tbody>
</table>
Breckridge & Vincent (1966) stated that the child who cannot throw a ball roller or ride a bicycle with skill becomes a group liability and is likely to become lonely.

1.8.1 Pattern of Motor Sequence

Motor development does not occur in a haphazard manner. It follows a definite sequence which may differ from individual to individual, due to degree and timing of development. Trends are common for all.

1. Cephalocaudal development- It starts, first from head and then develops the organs, which are below the head, towards feet; the trend is from head to foot. It is called cephalocaudal. The foetus first starts moving its head; after birth also, it is head which the neonate first starts manipulating, then develops visual fixation. Eye-head coordination follows it and in last the child manipulates his/her feet in standing and walking. Thus, the whole trend of development of locomotion and manipulation moves from head to foot.

2. Proximodistal- The development of motor responses has the sequence called proximodistal. It is the heart and lungs which become functional first in case of an embryo; the organs which are outside or lying on the periphery of the body, develop their operational capacity later on. When the child develops the capacity to take hold of an object, the shoulders and the elbows first develop the manipulative skill and the hands & wrists do this later on. The upper arm and the upper leg come under control first, and the lower arm and lower leg later on.

3. From mass to specific- In the beginning when the infant is attracted towards an object, and is inclined to take hold of it,
his entire body becomes locomotive. Gradually, the child develops the capacity to take hold of the object, reducing the involvement of the number of limbs and their parts; and lastly only that part of his arm is involved which is directly related to the function. Thus, the reduction of involvement of parts of the body has the trend of – from larger to smaller muscles.

Hurlock (1972) has described certain conditions that influence the rate of motor development. Firstly, genetic constitution including body build and intelligence has a marked influence on the rate of motor development. Secondly, the more active the foetus is, the more rapid is motor development. Thirdly, favourable parental conditions especially maternal nutrition, encourage more rapid postnatal motor development than unfavourable prenatal conditions. Fourthly, a difficult birth, especially when there is temporary brain damage, delays motor development. Lastly, good health and nutrition during early postnatal life speed up motor development unless there are environmental obstacles.

Besides, children with high IQs show more rapid motor development than children with normal or below normal IQ. In addition, stimulation, encouragement and opportunities to move all parts of body speed up motor development. First born tend to be better than later born due to parental encouragement and stimulation. Further more, premature birth usually delays motor development as the level of development at birth is below than that of full term infants. Physical defects like blindness may delay motor development. Green & Bavelier (2003) stated that every society encourage a large set of special motor skills that one specific to the food, tools, toys, games, sports, leisure
activities, and forms of labour in the culture. Chopsticks, skis, bicycles, and other cultural objects extend body parts and augment physical capabilities. The videogame world of American teens or any other society dictates the motor pattern that children acquire. Children’s bodies and brains change to support these new motor skills.

Gender, racial and socio-economic differences play a role in motor development only on the ground of motivation and child training method rather hereditary differences.

1.9 Self Help Skills

Self help skills are those skills which make a child self dependent in terms of eating, dressing, bathing and toileting, if the child learns these skills than it becomes a part of daily life. These are those skills which a child must do. Self help skills make a child happy and make him a self dependent member of his own family and society. For a child, it is a big job to tie his shoes, combing, washing his face and hair, buttoning his shirt, increases his self respect and enables him to be self supportive.

The best place to learn all these skills is home for a child because only at home these skills are routinely used in day to day life.

For a disabled child to train for these skills is a time consuming and depressing job. The maturity of a child plays an important role in deciding whether he can do a special work or not. Developmentally delayed child matures very late. To be trained in a particular task he has to repeat it many a times. Important thing is that the child’s recapitulation of the task should be interesting.
Self help skills are those important skills which a child learns in his behavioural skills. These skills make a child happy, confident and an independent member of the family. With these skills, other things like initiative, self dependence, responsibility and co-operation are learnt automatically.

1.9.1 Pattern of Self Help Skills

1.9.1.1 Sucking and eating

Sucking is the strongest activity performed by a newly born when a bottle or his mother's teat is provided to him. Feldman (1988) stated that sucking is a simple activity which is done by all children automatically but some of them required assistance. It provides immunity to the body for the whole life.

1.9.1.2 Wearing Clothes

During first year after birth, the child is completely dependent on his/her mother for wearing clothes. During second year after birth, the child is capable of wearing socks and put on buttons. In third year he/she can tie laces on shoes.

Gessell and Ling (1949) studied a lot of situations for the development of self eating skill among children. The pattern they observed in holding of cup by a child is as follows

12th week - look at the cup but not able to hold it
16th Week - touch the cup
20th Week - try to hold the cup from both sides
28th week - hold the handles of the cup
36th week - now he can hold the cup, with handle and take it near to his lips in a pattern of drinking something from it
1 Year - After one year, the child starts using his fingers and is capable of holding cup and spoon and start using them.

Children of same age and same developmental level differ in respect to the development of self help skills. The main factors responsible are intellectual level, opportunity of learning, quantum of guidance, ways of communication, role of mother etc.

1.9.1.3 Intellectual Level

The development of the intellectual level supports children to learn more in respect to their self help skills. Intellect makes a child to learn by experience, seeing, remembering and by concept making.

1.9.1.4 Opportunity of Learning

The opportunity of learning provides a concrete foundation for learning. Low socio-economic children have minimum opportunities as compared to high socio-economic status children. Children with rural background also have limited opportunities as compared to their urban counterparts. All these differences bring a basic difference in the self help skill learning.

1.9.1.5 Quantum of Guidance

The development of self help skills is dependent on the quantum of guidance. New and entertaining ways attract a child to learn about a particular skill or action while many others are ignored or lastly cared by him/her until or unless his/her attention is diverted towards that toys, books and pictures. So, proper selection of activities makes a child to enhance his/her self help skills.
1.9.1.6 Role of Parents

Medium class family parents expect more from their children. They start training their children very early and keenly observe the movements of their kids. While, low and high class parents are not so much anxious about their children movements.

Working women want skillfulness, self dependence and self satisfaction in their children. They give training to their kids on the ground that such type of training is very much useful for the child to develop into an adult. The view point of non working workmen is entirely opposite. They consider the childhood as a stage of enjoys and children should not be bounded by responsibilities.

1.10 Early Intervention

A comprehensive dictionary of psychological and psychoanalytical terms by English & English (1958) defined intervention “as action by a therapist that tends to direct or influence the client’s behaviour during therapy session or in general”. Only in the recent years, special educators have become convinced of early intervention. Very shortly it has become a very prominent and fast growing component in the field of special education.

The support of early education comes from the belief that early systematic instruction can eliminate or minimize the handicapping effects of disabilities and absence of appropriate early educational opportunities for special needs children which lead to cumulative deficits at later stages in life.

Early intervention refers to the services provided to the child and his/her family based on individual needs to ensure that
the child will develop to his full potential. These services may be center based or home-based or home-centre based. Some services are also delivered in hospitals, schools and clinics for children with disabilities. Priority is given to the programmes which are previously medically related and fulfill educational or supportive needs later on.

The first few years of child's life play a significant role in all round development of his / her personality. During this formative period, a child's physical, social and intellectual capacities need to be discovered, nurtured and developed so that he may be enabled to lead a useful and productive life. This phase is of preliminary importance especially when the child is suffering with any handicapping condition.

Early intervention applies to children of pre school age who are discovered to have been at risk of developing handicapping conditions, or they may have special needs for their development. Early intervention consists of the provision of services for such children and their families for the purpose of lessening the effects of the handicaps condition. Early intervention can be remedial or preventive in nature i.e. remediating existing developmental problems or preventing their occurrence.

Early intervention comprises a set of supports, services and experiences to prevent or minimize long-term problems, as early as possible (Dunst 1998; Guralnick, 1981). Conceptually, Early Intervention can be offered at any age before or in the early stages of disabling conditions and circumstances (Moniz Cook, Agar, Gibson, Win & Wang, 1998), but the term 'early intervention' is typically reserved for infants and young children (Odom & McEvoy, 1988). Such children receiving early
intervention are at risk for developmental, emotional, social, behavioral and school problems because of genetic or environmental factors.

Early intervention services are designed to address a problem or delay in development as early as possible. The services are available for infants and toddlers. Public and private agencies serve as providers to address the needs of children and their families who meet the state eligibility criteria. Services are provided by qualified personnel in natural environmental settings in which children with special needs generally participate. They may feel comfortable and convenient in family settings such as home, community or child care setting.

An early intervention team generally consists of teachers with special education training, speech and language pathologist, physiotherapist, occupational therapist and other support staff, such as music therapist, teacher aides/assistants and counselors.

1.10.1 Need and Importance of Early Intervention

Jordon & Decharm (1959) reported that the achievement of retarded children is inferior to that of normal children and stressed the need of intellectually challenged children for special social consideration and to achieve the fullest possible attainment. Shepps & Zionker (1962) concluded that the behaviour of the intellectually challenged is highly rigid. They find great difficulty in shifting towards learning new tasks. Revill & Blunden (1978) expressed their views towards the problems encountered by the parents of handicapped children.

Hunt (1961) and Bloom (1964) have emphasized the importance of early intervention through which the handicapped
conditions can be eliminated. Therefore, early detection of disability with early intervention is of prime importance in reducing the risks of secondary problems and helping disabled children. Further, the zeal and enthusiasm of children to initial learning provides logic for early intervention programmes. Particularly for children who exhibit signs of abnormal or subnormal development. The early intervention is a Tran’s disciplinary model, in which staff members discuss and work on goals even when they are outside their discipline (Pagliano, 1999).

Still, early intervention recognizes and respects the importance as well as central role of the family in their child's life. The purpose of early intervention is to promote the child and family's ability to meet developmental outcomes. Early intervention may focus on the child alone or on the child and the family together. Early intervention programmes may be center-based, home-based, hospital-based, or a combination. Services range from identification i.e. hospital or school screening to referral services i.e. diagnostic aids, leading to direct intervention programmes. Early intervention may begin at any time between birth and school age.

Early Intervention programmes cater to all sorts of children with special needs, may be environmentally at-risk, developmentally delayed, deviated, handicapped, children with behavioural problems or learning disabled etc. The trend in developed countries is to de-label them by meeting their special needs through early intervention during their infancy and early childhood. Early Intervention services are aimed at the developmental concept of the "whole child" that involves a
combination of extended informal and non-formal education. Developmental gain attained by young ones is substantially important to prove the efficacy of early intervention programmes and practices in varied localities under diverse settings (Allen & Hudd, 1987; Stedman, 1988). Ramey & Ramey (1992) highlighted the enhancement in the scores of low birth weight premature infants who received comprehensive early intervention when they were tested for developmental age.

White (1975) supported the view that early childhood provides a foundation for all subsequent learning and hence represents a time when early intervention is more important and influential.


Intervening early with exceptional children has three primary reasons –

a. To enhance child’s development.

b. To provide support and assistance to family.

c. To maximize the child’s and family’s benefit to society.

Research in the area of child development has established that human learning and development is most-rapid in pre-school years. So, intervention efforts must be started during this period. Postponing intervention is wasteful of years that are available for instruction. Early intervention services have a significant impact not only for the young exceptional child, but on his/her parents and siblings as well. Early intervention can result in teaching of
skills to the child and supportive environment for the parents. Smith & Strain (1984) reported that the child’s increased development and educational gains and decreased dependence on social institution as well as increased family ability to cope with the presence of exceptional child, gives economic and social benefits.

1.10.2 Early Intervention in India

India is making rapid strides in the task of implementing early intervention programmes as is evident from the Government of India Resolution regarding all round development of children (National Policy of Children, 1974). It has been later stressed as one of the priority areas in the form of Early Childhood Care and Education (ECCE) programmes in 7th, 8th, 9th, 10th and 11th Five Year Plans as well as in the National Policy on Education (1986). By now, the time is to fulfill the committed tasks. For this working partnership at the country and state levels is not merely desirable but has become a compulsive necessity.

1.10.3 Early Childhood Care and Education

Cameron (1999) illustrated that early childhood intervention may be provided with in a center based programme (such as early Head Start in united states), a home-based programme (such as Portage in Britain, Japan, India) or a mixed programme (such as Life Start in Australia). Some programmes are funded entirely by Government, while others are charitable or fee paying, or a combination of these.

In India, Early Childhood Care and Education programmes in general and services in particular are being propagated through various types such as day-care centers, pre-primary schools, non-
formal education centers, creches, mobile creches, nursery schools, integrated education and Integrated Child Development Services (ICDS) through aanganwaries.

So far as Constitutional provisions of India are concerned, the Indian Constitution (1950) provided a framework within which provisions were available for protection, development and welfare of children. The Constitution of India ensures 'justice' and 'equality' of status to every citizen and no Indian Law discriminates against people with disabilities.

The Government of India is implementing more than 120 schemes and programmes for the welfare and development of children and women through more than thirteen Ministries and Departments. It is a signatory to the World Declaration (1990, September) in the survival; protection and development of childrens' policies and regulatory framework through 120 schemes which are targeted towards their implementation, representing the needs and aspirations of India's almost 400 million children in areas of health, nutrition, education and related aspects.

These plans are quite broad-based and do not only cover established developmental delays/disabilities but also those children who are at possible at risk because of biological, nutritional or environmental factors.

The term 'early' refers to early in 'age' and early in 'onset' of delay/disability and the programmes are extended to the age-group of birth to 6 years (including birth to 3 years' programmes for infants and toddlers and 3-6 years' pre-school programmes). "In this age group, children with all disabilities or all degrees of severity are included for intervention apart from the at-risk
group" (NIMH, 1994). The types of early intervention that are offered in India can be Preventive, Corrective (like surgery), Treatment oriented (like drug therapy in cretinism), Compensatory (aids and appliances), Alternative methods for learning and performances.

Besides, "there may be a combination of any of these interventions depending upon the requirement in single given programme". The programme planned is individualized, solely prepared to meet the needs of an individual child. Flexibility in the programme is one of the principles followed. Thus, one may find variations from 'structured' to 'unstructured' programmes. In all these programmes, the ultimate beneficiary is the child. The mode of achievement in most of the programmes is through the parents. The parental involvement is vital and critical. The intervention may be therapeutic or psycho-social" (NIMH, 1994).

Thus, early intervention services are of national importance but these are still in their infancy and the quality or quantity of services delivered is far from satisfactory. India, however, shows encouraging trends to expand pre-schooling in rural, tribal and urban slums. There have been applauding achievements in early childhood development during the past few decades from 1950s but, still a lot of scope are there for the better involvement of the existing early Interventionists such as professionals (early childhood health planners, administrators, policy makers, educators, psychologists, therapists, teacher-educators, researchers etc.), para professionals (nursery school teachers, in charge of day-care centres, aanganwari workers, lady health visitors etc.) and non-professionals (parents, grand-parents, siblings, volunteers, social workers, mahilla mandal leaders etc).
Attitudes of parents towards their children have considerable impact on the ability of the child. Parents of children who are at risk of developmental delays, mentally retarded or slow learners should know that their child needs special care and treatment. Holmes (2000) reported that “The children with low birth weight, minority status and living in a household headed by a single mother showed delays in development and limitation in functioning as compared to those properly cared and born normally”.

These developmentally delayed children like any other, need to be allowed to develop at their own rate in positive surroundings. Parents, sometimes, expect too much from their children. Their high expectations may affect the relationship which should exist between parents and the child. Therefore, parents should know the limitations of their child and try to give him/her the most helpful type of training for handicapping conditions.

Robin McWilliam (2010) developed a model that emphasized five components understanding the family ecology through eco maps, functional needs assessment through a routine based interview; trans disciplinary service delivery through the use of primary service providers, support based home visits through the parents consultation; and collaborative consultation to child care through individualized intervention within routines. These services are to be provided in the child’s natural setting, preferably at a local level, with a family oriented and multidimensional team approach.

Other trends in Intervention to rehabilitate and reduce the occurrence of mental retardation reviewed by Prof. Tehal Kohli
can be characterized as (i) Co-operative team work (ii) Specialized Intervention Programmes (iii) Involvement of family (iv) Involvement of community services postal training-cum-contact programme (v) early medical programme (vii) environmental manipulation (viii) occupational therapy and (ix) behaviour modification techniques such as operant technique, behavioural task analysis, behaviour therapy, precision teaching, punishments, Portage home learning etc. The portage training is implemented in the present study, which is elaborated in the following section.

1.11 Portage Service

There are a number of home-based/center-based programmes aimed at teaching mothers how to communicate, interact and work with their young children. These programmes involve varying amount of cognitive and social stimulation (Shearer, Shearer & Kuyk, 2005).

Portage is also one of such home-based, center-based programmes which derived its name from a small town in Wisconsin (USA) where the first home-teaching scheme began in 1969. This place was ‘Portage’ or a cross over from body of water to land. It is now used as a cross-over or bridge, a way of transferring knowledge and skills from professionals to para-professionals and non-professionals. Also, it is known as Portage because the services are usually carried to the door –steps of the needy. The term ‘Portage’ is now being used as (i) a concept, (ii) an educational construct and (iii) as an educational service. The classic portage model was developed by David Shearer and Marsha Shearer in 1972. It is tried in India since 1981 (Kohli, 1981).
1.11.1 Aims of Portage Service

1. Provides educational service to pre-school children with development deficits.
2. Provides opportunity to rural/slum areas and to disadvantaged groups.
3. Models are practical, cost effective and can be replicated.
4. Parents can do a lot. So, it aims at utilizing the services of the parents as well as other existing human resources.

1.11.2 Basic premises/assumptions on which Portage is based

1. Parents care about their children and wish that they should develop their potentials to the fullest possible extent.
2. Parents care, with instruction modeling, guidance and reinforcement, learn to be more effective teachers. They are the natural resource agents.
3. Socio-economic status and intellectual levels are no ‘bars’ in implementing Portage services.
4. It is based on the philosophy of humanitarian care for children with special needs
5. Precision teaching model is always the best because feedback is provided daily.

1.11.3 Working of Portage Model

Trained Home-Advisors can weekly visit the home or pre-school education centers and study the child and can, thus, identify the child with special needs. Parents or pre-school educators can then decide what the child can learn in the coming weeks. Long and difficult task can be broken down into easily
achievable tasks and can be practised daily. Parents / pre-school educators can keep record of child’s progress on activity chart describing each teaching activity.

**1.11.4 Phases of Portage Model**

**Phase-I** Planning of weekly curriculum objectives by Home – advisors (with the help of the portage checklist and by directly involving parents, Aanganwari workers etc.)

**Phase-II** Teaching curriculum objectives (By Home advisor through home-center based weekly visits by using portage activity charts. Parents/Aanganwari workers/ nursery teachers work with child during the week and record in activity chart)

**Phase-III** Recording and Assessing curriculum objectives (Qualitative and Quantitative changes in behaviour from weekly single or multiple base lines of phase I to Post base-lines)

**Phase IV** Evaluating curriculum objectives (on the basis of the targets set for teaching so that further planning could be done for the next week).

**1.11.5 Application of Portage Services**

With the initial training by the Home-Advisors, the portage services can be carried out with the existing human resources such as.
1.11.6 Advantages of Portage Service

1. It is cost effective- and can be replicated.

2. It utilizes community’s existing resources rather than highly qualified staff.

3. It stresses upon parental involvement as natural resource agents. Due to this parents as consumers feel more involved.

4. Portage Model though follows a highly structured design, yet, it is simple in its implementation.

5. Stresses upon individualized instruction.

6. Para-professionals and non-professionals are as effective as professionals and hence, easy to staff.

7. Stresses upon systematic step by step and skill by skill training.
8. Helps in achieving points 15 and 16 (out of 20 point programme) of pre-school education through ECCE programmers by involvement of mothers.

9. Can be modified according to the specific needs.

10. Gains have been confirmed by various studies conducted by various researchers in India and Abroad

11. Suited even to rural/slum dwellers and illiterates.

12. Can be extended to children with other special needs to regular school and to adults.

Portage Services can be extended beyond mentally retarded/developmentally delayed children to children with other special needs and to regular schools. These can also be extended to adults. Portage Home-Advisors are also always happy to work in cooperation with professionals, para-professionals and non-professionals in reducing possible childhood disabilities or difficulties.

Pagliano (1999) stated that “in a trans-disciplinary team, the roles are not fixed. Decisions are made by professionals collaborating at primary level. The boundaries between disciplines are deliberately blurred to employ a targeted eclectic flexibility. The role of all i.e. professionals, para-professionals and nonprofessionals is equally important.

Shah (1991) estimated that out of 146 million world’s disabled children under the age of 15 years, 88 million are in Asia alone. 80 percent of the disabled live in the developing countries where a less than one percent receive any special help. The mentally retarded population is the maximum sufferer. The world Health Organization (1976) estimated that about 3 percent children of
school age may be mentally retarded in most cultures and countries. India may be housing 2.1 percent of the total population as mentally retarded. Figures boost up if other developmental handicaps in specific area, e.g. motor handicaps or multiple handicaps etc. are also included. (Census of India, 2011). This is alarming and terrifying because in India, special facilities are inadequate and are offered to only 0.04 percent of the mentally handicapped children, with almost nil attention to partially developmentally delayed children.

In the present study, Portage training is a centre based training in which the home-advisor (researcher) trained the aanganwari workers to be more effective teachers of pre-schoolers. The beauty of this training is that even the less educated workers of aanganwaries of rural areas can act as non-professional therapists to enhance the development of intellectually challenged children. The main advantage of this training is that it is (1) cheap and cost effective, (2) non-formal, (3) home/center-based, (4) given step-by-step and skill-by-skill, (5) can be used and recorded by all literate and illiterate (6) based on inter-agency team work, and (7) community based.

1.12 Pre-School Education

The most important years of learning begin at birth. During these early years, humans are capable of absorbing more information than later on. The brain grows most rapidly in the early years. Nowadays, pre-school education started from parents as educators to integration of pre-school children in regular education programmes. Today, various types of pre-school facilities are in existence i.e. kindergartens with full day curriculum, residential homes for children, pre-school groups
attached to special schools and special groups for various categories of exceptional children, with in kindergarten for non-disabled children. The age-range of early childhood education is usually considered to be birth to eight years and includes all infants and young children who are delayed in their development, handicapped or at risk of becoming handicapped.

1.12.1 Pre-School Education in India

The educational scene in India is marked by two distinct periods – Pre-Independence (before 1947) and Post Independence (after 1947). In the pre-Independence period, the educational system was largely designed to serve the interests of erstwhile rulers who did not make any worthwhile attempt to spread education. At that time, literacy meant to focus on pre-school education only. There were a few kindergarten and montessori schools mostly located in urban areas which catered to the children of the rich and privileged. Some voluntary bodies took the initiative to promote pre-school education, but due to lack of Governmental support and funds, their efforts did not succeed. In those times, educators like Tarabai Modak and Gijubhai were instrumental in setting up the Nutan Bal Shikshan Sangh in 1925. Various committees and commissions like the Abbot and Wood Committee (1936-37), the Second Wardha Commission Report (1939), Gandhi’s pre-basic education plan did highlight the need for improving the pre-school education. But unfortunately these recommendations remained unimplemented.

In the post independence scenario, education has been given due recognition. Forced and compulsory education for children up to the age of fourteen years was recommended by the Indian constitution. However, the importance and need of early
childhood education has been recognized, but not many concrete or systematic efforts are made till recently with regard to the special education for the benefit of disadvantaged or disabled children. Further, the expansion of institutionalized settings is too slow that they can’t cover the under privileged children living in rural areas or urban slums, where pre-school education is provided in ‘Aanganwaries’ and ‘Balwadis’ run by the government agencies and welfare council respectively.

Witty (1949) revealed that only through education a boy or girl can be promoted to the minimum level of development in terms of his or her unique nature and needs. The early education period is a crucial period in the growth and development of an individual. Foundation of physical, mental, social and personality development of a child are laid in this stage and these foundations are very important because of rapid growth and development in this period. Bloom (1964) has stated that 50 percent of the intellectual development is gained by four years of age. Hence, all these views strongly advocate the importance of early years in life which can be termed as root years of learning in life.

Hunt (1961), Kioproth (1969), Elizabeth (1975), Doren (1977), Gates et.el. (1980) also have highlighted the importance of early education during the childhood period.

Pre School refers to any age before the compulsory age of entry to a regular primary school. Pre school education may be defined as, all education that a child experiences or goes through from the time he is born to the times he begins formal school. This period ranges from three to six years. There are three major sources which play important role to provide education to a child.
in early days and they are (i) the Home (ii) the community (iii) pre school institution. All these are partners in pre-school education (Prakasha, 1983).

The purpose of pre-school education is to provide for "the all round development of the child's personality by complementing and extending the pattern of informal education that is being provided in the domestic setting" (Heron, 1979). In fact "The demand for preschool education and its qualitative improvement is beginning to rise slowly but surely the world over" due to psycho-social and economic reasons (Prakasha, 1983). So, it becomes imperative for every nation to trigger this recent awakening of interest in pre school education. In India by the formation of 'National policy for children (1974), the Government resolved that 'It shall be the policy of state to provide service to children, both before and after birth and through the period of growth to ensure their full mental, physical and social development. The states shall progressively increase the scope of such services so that with in reasonable times, all children in the country enjoy optimum condition for their balanced growth'.

1.12.2 Aanganwaries

In the year 1975, the government of India launched Integrated Child Development Service. This was the most massive programme in the country which brings together nutrition, health and psycho-social component of development. Initially, it was launched in 33 ‘blocks’ as pilot project. The results of the programme gave a push for its implementation throughout the country. The children between age group of 0-6 years, pregnant and nursing mothers and all women in age group of 15-45 were decided to be its beneficiaries.
Non formal pre-school education was proposed for children of 3-5 years age group. An aanganwari (literally meaning, a courtyard) is the focal point for providing the proposed services like physical check-ups, immunizations, referrals and supplementary nutrition. The grass root level worker who runs all these activities is known as aanganwari worker. This programme is well conceived and shows a high degree of integration at conceptual level as well as in policy and planning.

But, the provision of non-formal education, absence of curricular content and the little bit exposure to educational development does not meet the requirement of under privileged children.

1.12.3 The Kindergarten Movement

Frederick Froebel's efforts to instruct the young children initiated the Kindergarten movement, both in the United States and Europe. Froebel's kindergarten included various activities for 3 to 6 years old children namely, 'The Gifts', 'The Occupations', and 'The Mother's Plays'. The Gifts included objects, the Occupations included activities that stimulated artistic expression in children and introduced experiences that children should be familiar with and Mother's Play consisted of games and songs. In the whole scene, a greater need was felt to train teachers. Froebel's contributions had a lasting importance and eventually became the backbone of early childhood practices in America (Peterson, 1987).

1.12.4 The Nursery School Movement

The historical roots of preschools can be traced to the establishment of the first nursery school by Rachel and Margaret
Macmillan in London. The starting was as a health clinic. Later on, converted into open air schools, which were named 'nursery schools'. Simultaneously, Maria Montessori (1870-1952) started the first nursery school in Italy. The objectives, the population served, and the social concern of both the British and the Montessori schools were similar as their philosophies were influenced by Seguin rather than by Froebel. The only difference between two was that British nursery schools broadly conceived and delivered comprehensive programmes involving the parents, the Montessori system was somewhat narrowly defined.

"Despite the existence of this long term connection between pre school and social reforms, actual supports for pre school have been intermittent. They are being picked up and abandoned as function of economic, social and political forces" (Karweit, 1989).

1.12.5 Integrated Education for Disabled Children (IEDC)

To ensure the equal educational opportunity for the disabled, the National Policy on Education (1986) has stated that the objective should be 'to integrate the physically and mentally handicapped with general community as equal partners. So that, they can prepare themselves for normal growth and face life with courage and confidence'.

It has further stressed, “Wherever, it is feasible the education of children with mild handicaps will be common with that of others”. In pursuance of these goals, a centrally sponsored scheme has been launched by National Council of Educational Research and Training (NCERT) in 1986. This scheme attempts to provide educational opportunities for disabled children in regular schools.
Prior to a child’s entry into the regular school system, this scheme provides pre-school training to disabled children and counseling for the parents. Under this scheme, the disabled children can get education up to senior secondary stage. The teacher pupil ratio under this scheme is 1:8 which would be same for preparatory pre school classes and normal higher classes. The other requirements envisaged under this scheme are (a) training of special teachers (b) training of Administration staff (c) setting up a resource room (d) removal of architectural barriers (e) development of instructional materials (f) continuous evaluation and monitoring by a panel of experts.

Many facilities in the form of books and stationary, uniforms, transport, equipment, allowance, escort allowance for orthopedic handicaps, reader allowance for blind, one attendant for ten children, lodging and boarding charges to poor children etc. have been extended to encourage maximum enrolment.

ECCE is also envisaged in the role of a support service for working women. The pre school education component of ECCE has demonstrated a positive impact on retention rate and achievement level in primary grades. However, the other aspects like healthy environment, stimulation activities and encouraging, care giving teachers etc. are imperative to ensure all round development in children.

In India, the National Policy on Education (1986) recognizing the crucial importance of early childhood education, recommended strengthening ECCE programmes not only as an essential component of human development but also as a support to universalization of elementary education and a programme of women's development.
'Early Childhood Education Scheme' and 'Balwadis' under the Central Social Welfare Board were introduced as a distinct strategy to improve the rate of enrolment in primary schools and to reduce dropout rate. Under the scheme, central assistance is given to voluntary organizations for running preschool education centre which cater to children in the 3-5 years’ age group. The main aim of this scheme is to expose children from low income families to early childhood education. These centers are generally located either at municipal school, community space, and place of worship or teacher's home. They ideally comprise 20-25 children with a reasonably qualified teacher from the neighbourhood.

1.12.6 Early Childhood Care and Education

The first six years of a child’s life have been recognized as the most critical ones for optimal development since the process of human development is essentially cumulative in nature. Investment in programmes for the youngest children in the range of 0-6 yrs has begun to be accepted as the very foundation for basic education, life long learning and development. Over the years, the field of child care, inspired by research and front line experiences, has developed into a coherent vision for early childhood care and education. By now, the systematic provision of Early Childhood Care and Education (ECCE) helps in the development of children in a variety of ways. These include-

- Improving group socialization,
- Inculcation of healthy habits,
- Stimulation of creative learning processes, and
- Enhanced scope for overall personality development.
Thus, ECCE must be promoted as holistic input for fostering psycho-social, nutritional, health and educational development of young children. For children belonging to underprivileged groups and for first generation learners in the society, ECCE is essential for countering the physical, intellectual and emotional deprivation of the child. ECCE is a support for the universalization of elementary education. It also indirectly influences enrolment and substitutes core facilities for young siblings.

1.12.7 Emerging Scenario of ECCE

The emerging concern is of quality assurance in terms of appropriateness of the learning experiences for children and safety of the environment in which such programmes are conducted. The other closely related issues are

- Appropriate qualifications and training of care-givers and educators,
- Prevention of pressures being imposed on the children for performance and achievement (without consideration for the pace and readiness of individual children),
- Channeling undue parental anxiety and demand for formal learning,
- Balancing the ‘over emphasis’ on reading and writing.
- Checking the over-crowding in the class rooms in the gross violation of space requirements per child.

It is vital that all the stakeholders (Children, parents, neighbourhood and society at large) of children become aware of the need for adherence to the spirit and letter of ECCE rather than be driven by competition or commercialization. In many of
the leading metros of our country there is a syndrome of the ‘overburdened pre scholar, whose tight schedules of training and tuition leave no room for joy or play. This emerges from the parents’ anxiety to secure admission for their children in ‘proper’ schools.

So, instead of the ‘upward extension’ of the informal play-way methods into the formal schools, we are faced with an unhealthy ‘downward extension of formalism’ into the preschools. However, at the other end of the continuum of the economic strata, there is a large group of children who do not hold pencils in their fingers and scribbling on paper or even the economic division is not just a concern but is a big challenge. In nutshell, in the process of establishing programmes of early childhood care and development, we have the opportunity as well as the obligation to work diligently and creatively towards providing a ‘fare start’ to the children as they move from womb to the class room and from close environment of family to larger world. The quality of non-formal preschool/ early childhood care and education imparted through various channels is uneven, which varies from minimalist approach to a mushrooming of accelerated academic programmes. Inadequate understanding of the concept of ECCE, its philosophy and importance among stake holders affect the outcome adversely. So, all these shortcomings need to be addressed properly and perfectly to make the process effective and to do the justice with the would be builders of nation.

1.12.8 Prevention of Intellectual Challenged Condition

It has been observed that the biological and genetic accidents are without any biasness to economic status of parents
but the mild forms of deficiency do occur in the economically low graded class. Stein & Sussen (1962) observed that children without any brain damage are found predominantly in lower socio-economic groups. They further termed it as a product of subculture.

UN experts in Geneva (1977) concluded that disabilities contributed 25 percent of the world’s population. Intellectually challenged condition further shares its 7.7 percent part. Sen (1975) reported that 4% of the Indian population were intellectually challenged. In 1975, people suffering from all types of disabilities were 490 millions i.e. 12.3% of the world's population. It was estimated to be 846 millions i.e. 13.5% of total population by 2000 (Noble, 1981). Aggarwal & Singh (2010) estimated that the disabled population in India will be increasing from 20.80 million in the year 2002 to 22.69 million in 2016. Due to lack of awareness and priorities this problem exists more in developing countries, where most of the world's children live. So, a lot of work is required to be done for awakening and prevention of this impairment.

The population Census of India, (2001) described that the incidence of disability in males was much higher than in females, which is estimated 59.5 percent for males and 40.5 percent for female population. While, NIMHs annual report (2008-09) reported the prevalence of 92 persons with mental retardation per one lakh population. Census of India (2011) found disabled male and female proportion (57-58%) and (42-43%) respectively. In Haryana state, which does not reflect the happy state of affairs as far as the state is the highest grain producer in the country and referred to as the food bowl of the country. Besides, it produces
maximum milk and other food sources while, the states like Sikkim, Tripura and Arunachal Pradesh rank on the bottom of the list having few persons with mental disabilities per one lakh population (NSSO 58th round from NIMH).

Prevention is an assignment having a blend of technological competencies as well as societal resolves. We can categorize it broadly in three classes-

**Primary Prevention**- It may be due to improved material and early childhood nutrition and having better immunity against bacterial and viral infection. Further, we should be very careful towards prenatal and postnatal cares.

**Secondary prevention**- This involves early identifications of factors or conditions in which intervention can absorb an outcome with retardation.

**Tertiary Prevention**- It comes out with prevention of complications and minimizing the long-term disability by providing a particular support to the infants and their families. It has a broader scope.

So, the primary, secondary and tertiary prevention provide an insight to prevent the intellectual handicaps. It is also quite important to adopt these measures in day today routine. For example, if alcohol consumption adversely affects the infant in womb then it has to be prohibited for the whole gestation period.

**1.13 Justification of the Study**

In the developing countries, one out of ten children is reported to have a physical, mental or sensory impairment and we know that little has been done to prevent the occurrence and frequency of impairment due to economic and social limitations
of developing countries. Intellectually challenged children are considered as burden by the parents and care takers. They are ignored up to a large extent and cornered from all walks of life.

Now a day, institutions have become a place of isolating the intellectually challenged from the community. They provide a very dismal picture of inadequate services and poorly equipped staff. The surrounding is not congenial to intellectually challenged children's development. Present health network is also inadequate to handle the intellectually challenged. The medical, diagnostic and therapeutic facilities are restricted to a few large centres. The attitude of medical practitioners is that of indifference. All these conditions and limitations demand us to help the impaired child with means which involve less money and maximum output and proper utilization of the available infrastructure.

Since the parents and teachers are most motivated to help, understand and care for the child and have the most meaningful relationship with him or her, they perceive themselves to be responsible for his/her long term care. The direct participation in assisting the child stimulates them for their better involvement further. Parents' and teachers' assistance at home and pre-school for early intervention will lay the ground for more complex skills to be learnt later in life.

So, involvement of all the stakeholders (Home advisors, aanganwari workers, parents, children, neighbours) make the successful foundation of any project undertaken. Rural pockets of India are so far away from the district head quarter that the availability of health services and specialists is quite difficult. The daily wages losses of the parents of disabled compel them to
rethink about their planning to cure their wards. The NGOs working for the welfare of intellectually challenged children have also centered mostly in the urban pockets and nearby localities. There is very little enthusiasm shown by the government functionaries or voluntary organizations to adopt the disabled children. There are very less number of institution either Government or non government sponsored, which provides training, systematically and periodically, to the disabled or their caretakers.

The surroundings of the disabled children give discouraging compliments to the intellectually challenged children if they take any self supportive step. The another strong belief that India is a country of Gods and Goddesses enforces the parents of intellectually challenged children to accept disabilities as a God's wish rather than knowing actual causes. Finally, such people surrender to the wishes of nature without bothering the future complications their children will face.

The large family size, illiteracy, lack of income sources, costly medical aids and low willpower to overcome the handicapping condition add to the unfortunate part of intellectually challenged children. The lack of guidance and advertisement of government sponsored schemes for welfare of disabled bring poor outcome.

All these circumstances make the parents to surrender and leave the child at his own fate. Portage as the low cost model of intervention and feasibility of application in the home environment by using the available resources give an enthusiasm to the investigator to undertake the present investigation.

Therefore, the investigator felt inspired to try this Portage
training programme which gives adequate guidance to parents and aanganwari workers for training intellectually challenged children to make them aware of specific skills and proficiencies for daily handling, care and interaction.

The present investigation attempts to study the effect of Portage training programme on motor development and self help skills only because of general competence while the other developmental areas (cognitive, language etc.) require specialists of that area. So, all this led to the inspiration of the investigator to take up such a study.

1.14 Statement of the Problem

The problem under investigation is precisely stated as under-

EFFECT OF PORTAGE TRAINING PROGRAMME ON SELF HELP SKILLS AND MOTOR DEVELOPMENT OF PRE-SCHOOL INTELLECTUALLY CHALLENGED CHILDREN.

1.15 Operational Definitions

It seems necessary to define some important terms used in the title. These are operationally defined as follows -

1.15.1 Portage Training Programme

Portage is a home, institution or center based visiting educational programme for preschool children with additional support and involves their families. In the present study, portage training programme involves weekly visits by the home advisor to train aanganwari workers as to how to target appropriate teaching tasks, how to best present them and how to record and assess the child's performance.
1.15.2 Self Help Skills

Self help skills enable a child to care for himself/herself. This term can be defined as those basic skills needed to take care of one's own needs. In the present study, the investigator includes feeding, dressing, bathing and toilet training as primary focus of self help skills.

1.15.3 Motor Development

Motor development, here, is taken as the coordination of movements of large and small muscles of body, including gross motor skill development, such as walking, running, jumping, etc. It also includes fine motor skills development such as drawing, writing and using tools etc.

1.15.4 Pre-School Intellectually Challenged Children

In the present study, the pre-school children are those who are in the age of four to five years and who have DQcomb less than 75. DQcomb was calculated on the basis of an average of

- a) Developmental Screening Test by Bharatharaj
- b) Vineland Social Maturity Scale by Malin
- c) Seguin Form Board Test

1.16 Objectives of the Study

The study has been planned with the following specific objectives -

1. To identify pre-school intellectually challenged children attending aanganwaris in Barara block of Ambala district.
2. To assess the level of self help skills of pre-school intellectually challenged children attending aanganwaris.
3. To study the level of motor development of pre-school intellectually challenged children attending aanganwaris.
4. To administer Portage Training Programme to pre-school intellectually challenged children attending aanganwaris.

5. To study the effect of Portage Training Programme on self help skills of pre-school intellectually challenged children.

6. To study the effect of Portage Training Programme on motor development of pre-school intellectually challenged children.

1.17 Hypotheses

1. The Portage Training Programme will have positive effect on the self help skills of pre-school intellectually challenged children.

2. The Portage Training Programme will have positive effect on the motor development of pre-school intellectually challenged children.

3. Intervention Programme will be effective in the gaining of DQ₁, DQ₂, DQ₃ and DQ₉mb.

1.18 Delimitations

The study is delimited to-

1. children in age group of 4 to 5 years of age at commencement of the service.

2. children attending Aanganwaries of Barara village only.

3. intellectually challenged with DQcomb less than 75.

4. children with deficits in self help and motor skill areas of development as compared to their chronological age.