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INTRODUCTION
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CHAPTER I
INTRODUCTION

Human disabilities present themselves in several forms. Despite several issues and problems in classification of mental and physical disabilities; chiefly, they are recognized as physical, sensory, or intellectual disabilities. Sometimes, they exist as an unfortunate blend of some or all of them within the same individual (Gross and Hahn, 2004). Physical disabilities include cerebral palsy, post polio residual paralysis, amputation, phocomelias, muscular-skeletal deformities and contractures. Sensory disabilities include partial or total blindness, deafness and/or anaesthesias of persons with leprosy. Intellectual disabilities refer to conditions of lower or inferior intelligence occurring in some persons almost since their birth or immediately thereafter. Learning disabilities—a unique variant of intellectual disabilities, comprises of persons with average of above average general intelligence in the absence of a marked proficiency in reading, writing, arithmetic or general academics (Dharitri and Murthy, 1987).

Among these various forms of human disabilities, mental retardation—an impairment of the human intelligence is probably the most unfortunate and challenging experience for the afflicted individual as well as those around. The deficient intelligence in these persons renders them defenceless and dependent on others. When their predicament is combined with ignorance
about their condition in the people around them, it multiplies their problems. It is not uncommon for people to underestimate their capacities and potentials, overprotect or deny opportunities for their learning; pity, ridicule and comedy at them. A greater part of their presenting symptoms is easily traced to their environment rather then as inherent part of their disability (Newson and Hipgrave, 1982).

A. Overview on Mental Retardation

This section of the thesis attempts to give an overview of mental retardation. It begins by highlighting the salient characteristics, magnitude, and causes of the condition. This is followed by a sub-section on remediation and rehabilitation for persons with mental retardation. The study of mental disabilities has a long history. However, it is marked by certain events and happening especially in the past few decades. There are changes in public opinion and attitudes, governments across the glob are undertaking fresh initiatives, not for profits are including services for this section of the population under their agenda, parents or caregivers of these children themselves are uniting to form consumer based self help groups, etc. In the academic circles, there has been a movement towards changing the definition of mental retardation and to induct positive labels. The persons with mental retardation require assessments of a different kind and appropriate program planning for
optimizing their latent potentials. All these issues and problems are discussed in this first section.

**Characteristics of Persons with Mental Retardation**

The commonly observed or reported external behavioural manifestations of persons with mental retardation are:

- Appearance of being dull and slow;
- Slow rates of development since birth in all areas;
- Discrepancy between physical and current mental age;
- Poor academic achievements with repeated failures at school;
- Dependent on others in performance of daily activities like dressing, bathing, toileting, grooming, brushing, etc;
- Slow in understanding, memory, attention-concentration, imagination, thinking, reasoning, problem solving, decision making, etc;
- History of delay in all developmental milestones;
- Difficulties in expression or understanding of language-verbal and non-verbal;
- Difficulties in managing money, telling time, reading calendar and orientation within familiar surroundings;
- Incompetence in performance of vocational activities expected for their age;
Inadequate social skills like greeting, community orientation, manners and etiquette (De Bildt et al, 2005); 

- Sometimes having associated features like fits, problem behaviours, etc.

The presenting characteristics of mental retardation also depend on their levels of environmental stimulation and exposure. Under stimulated and under exposed children with mental retardation-as seen in institutionalized children, are more likely to show self stimulatory, dependent and passive behaviours (Somasundaram and Kumar, 1984).

The diagnosis of mental retardation is usually based on a combination of investigative procedures including case history especially developmental history, cross sectional observation of contemporary behaviours, interviews with the affected individual and caregivers, as well as psychometric evaluation. Sometimes, biochemical, chromosomal, endocrine, or other biological tests are required to ascertain the cause and condition of mental retardation in individual instances. Nonetheless, it must be admitted that mental retardation constitutes a heterogeneous group of individuals with developmental delays, before or after birth accidents, trauma and/or insults respectively (Ram and Palsane, 1979; Mohapatra and Walia, 1964; Wadkar, 1933).

Mental retardation is not to be confused with mental illness. In layman's terms, they are used interchangeably. Mental retardation is a condition or
Mental illness is a disease. Mental retardation has onset at birth or immediately thereafter or at least within the developmental period. Mental illness can occur to anyone at anytime in the course of ones life. The common symptoms of mental illness are laughing or talking to self for no apparent reason, crying spells, hearing voices in their actual absence, disturbances in sleep and appetite, irrelevant or incoherent speech, etc. Mental retardation requires habilitation of the living skills that was never learned by the identified persons. Mental illness requires treatment with medicines. It also involves rehabilitation or retraining of the learned skills that have been lost due to the disease.

Mental retardation is even confused with other child psychiatric conditions like autism, attention deficit disorders, learning difficulties, emotional disturbances, etc. These conditions occur in children in spite of average or above average levels of their intelligence. Therefore, they should not be confused with mental retardation-involving a primary deficit in the basic intelligence of these children. Many times, these diagnostic confusions have led to great parental stress, anxiety and even faulty expectations about these children. Of course, it is equally true that some children with mental retardation may have some associated signs and symptoms seen in these disorders.
Magnitude of the Problem

The problem of mental retardation is as ancient as human generation. It is seen in all countries, castes, communities and creed. While the spread of this problem is widely acknowledged, the actual estimates in terms of numbers vary considerably from place to place. A WHO report suggests that 5.21 % of the general population in developing countries is disabled. This measures to a colossal 50 million persons with disabilities in our country. Out of this and among the various types of disabilities, persons with mental retardation are considered to be the least in terms of numbers.

For example, the National Sample Survey Organization (NSSO, 2002) reported that 31 persons per thousand population in rural areas and 29 persons per thousand in urban areas are identified as ‘developmental disabilities’. The term ‘developmental disabilities’ as used in that survey covers children only below 12 years. The NSSO figure ignores a vast population of adults with mental retardation.

Admittedly, there has been no national survey on prevalence of mental retardation in India. Sample surveys give only an approximate estimate. Previous investigations have used psychiatric morbidity surveys, information on number of mentally retarded cases registered at Child Guidance Clinics, data from registers of disability detection camps, etc. (Kumaraswamy, Joshi
and Kulkarni, 1991; Devi, Mathur and Dayal, 1980; Singh, Nigam, and Srivastava, 1975). These efforts have yielded a wide range of figures on prevalence of mental retardation—from as low as 0.7 per thousand to as high as 140 per thousand. Actually, the problem is that different investigators use different yardsticks to define and identify cases of mental retardation. When it comes to surveys, there is the challenge that informants do not report about their children with mental retardation. The mere admission of a person with mental retardation in the family poses a danger of social stigma and fear of rejection of the non-affected members in the family by the outside society (Goffman, 1974). While we await the results of Census of India (2001) on prevalence of disability across the country and despite the fear of doubt and debate; one can conservatively conclude that there might be 2-3 % of the general population that is afflicted by this condition (Venkatesan, 2004b)

**Causes of Mental Retardation**

Mental retardation is a condition of arrested intellectual development which is recognized to be mediated by a variety of causes. Broadly, they can be recognized and classified as developmental, biological, social, genetic, and environmental respectively. Among the biological causes of mental retardation, the frequently cited factors are biochemical, metabolic, hormonal or endocrine related, chromosomal, congenital, toxicological, etc. Impoverished environment, poor nutrition, lack of early infant stimulation, child
neglect, unsupervised births and deliveries, neglected prenatal and post natal care, poor parenting during infancy or early childhood, are all attributed to predispose young children to developmental delays. It is safe to infer that a combination of variables contribute to the development of this condition rather than accuse any one or two of them alone as the culprit. The causes for mental retardation are also likely to vary in different locations or geographical areas. Owing to bad dietary practices, protein energy malnutrition, Marasmus, Kwashiorkor or other nutritional deficiencies mental retardation may be prevalent in one region; just as, unhygienic or unsupervised obstetric practices may be the cause for natal insults and mental retardation in other parts of the country (Drew and Hardman, 2000).

There are several instances of children with early developmental delays, owing to a biological diathesis, who have still overcome their initial handicaps with intensive environmental enrichment programs. Early screening, detection and identification of children ‘at risk’ and those with developmental delays has become the mission and vision of most habilitation programs for optimum benefit of these children. It is stated that the real cause of mental retardation in any given individual can be accurately identified only in about 60% of cases. There are always a remaining 40% cases wherein the etiology of mental retardation must be deemed as unspecified or idiopathic (Jaffe, 2000).
Despite these observations, it is clear that majority of cases of mental retardation are preventable. For example, several cases of mental retardation resulting from metabolic anomalies (such as, Phenylketonuria, Maple Syrup Urine Disease and Homocystinuria) are completely correctable through proper dietary advices—if they are identified in early in infants. Further, certain associated conditions like epilepsy worsen the intellectual levels of the untreated child. Moreover, in recent times, the concept of intra uterine growth retardation has gained popularity in medical circles wherein pregnancies ‘at risk’ can be even prevented (Bhatia, Agarwal and Jain, 1990)

Remediation & Rehabilitation

In as much parents and caregivers intensely wish, there are no short cuts, quick fixes or simple remedies to overcome the difficulties and deficits seen in persons with mental retardation. There are no medicines, tonics or surgeries to cure or improve low intelligence or developmental delays in these children. Indeed, the average parent runs from pillar to post seeking solutions from all and sundry. It also takes a while for parents to come to terms with the reality in their child. They undergo a series of emotional reactions and responses including shock, denial, surprise, doubt, depression, dismay, hurt, helplessness, resentment, disappointment, and a sense of inadequacy on being informed that their child has a developmental delay or mental retardation.
Parental acceptance and a clear understanding of the diagnostic condition is an important precursor to initiating remediation or rehabilitation program for the child. Unless this is done, the parents are likely to indulge in what is recognized as 'shopping behaviours'. The phenomenon of 'shopping behaviours' refers to seemingly ritual actions or situations, wherein the parents/caregivers of children with special needs keep moving in and out of several rounds of consultations with specialists and/or non-specialists to alleviate their psychological plight resulting from the consequence of having to tend their child under trying conditions. On an average, parents of children with mental retardation seek consultations for at least 8-10 occasions before they seemingly come to terms and accept the condition of their child. Guidance and counselling is a proven means for decreasing the time lag for parent acceptance of their child's condition. It is also an avenue for reducing the intensity of their felt negative emotions, stress, burden and faulty interpretations arising as consequence of having a child with mental retardation (Mane, 1990; Shastri, 1978; Malvia, 1973; Sinclair, 1973; Singh, 1972; Upadhyay, 1971).

Different intervention programs are required for different ages or levels of children with mental retardation. For infants ‘at risk’ or those with developmental delays, early intervention services, sensory motor stimulation, activity scheduling, home based training programs, toy or play based activities, informal instruction, listening and receptive communication therapy, and the
like are indicated. The focus is on sharpening the senses, integrating them to function as a whole and achieve the basic motor competencies in the young child (Bricker and Cripe, 1992; David and Apte, 1991; Pandit et al, 1989).

For children with developmental delays in their preschool years, the focus of remediation is through caregiver empowerment and home based training programs. Wherein the opportunities for socialization are limited—as in case of twin working parents or nuclear families, alternatives like crèche, baby care centers and play pens are to be considered. The focus of intervention is sensory-motor stimulation, play based pre kindergarten activities, development of speech and self-care competencies. Early intervention programs have been demonstrated to radically improve or alter developmental quotients in young infants and toddlers (Bhakoo et al, 1977).

The children with mental retardation and developmental delays, who have entered school age, may not be actually ready for formal and regular schooling as in the case of their same aged non-retarded peers. Still, the first choice of parents must be to integrate these kids with normal peers. This aids appropriate role models for development and facilitation of play, development of communication and social skills. In recognition of this need, contemporary governments across the world have recognized the importance of inclusion and integration within the ambit of universal elementary education (Rao, 1990; Parikh and Shukla, 1982). This is the time for inculcating fine motor
competencies, refinement of speech expression, pre-academic skills related to reading, writing and arithmetic in these children (Curtis, 1982).

The children with mild to moderate mental retardation in their formal school ages require their inclusion into regular schools. The idea is not to enable academic success as in their non-retarded age peers. What is more important for them in regular school is socialization and acquisition of competencies in peer play and allied social skills (Verma, 1978). The children with severe mental retardation in this age group, no doubt, need to be accommodated in special schools or day care centres.

Older children, adolescents and adults with mental retardation require prevocational training; and later, vocational training and rehabilitation (Hanumantharao, Venkatesan and Vepuri, 1994; Haring, 1982). It is important to understand that children at all ages or grades of mental retardation require only functional programming and individualized education. They do not and cannot benefit from instruction on lessons or curriculum that is full of abstractions, deductive reasoning, hypothetical assumptions and concepts. The curriculum must be simple, pragmatic and what is required in their day to day lives. One to one teaching and learning is preferred to group training. Even if group teaching is a necessity, only small group (not exceeding seven to eight children) is to be preferred. Above all, play based teaching methods facilitate their learning. In short, the teacher needs to run at the pace of the...
child rather than insisting or expecting the child to run at the pace of the instructor. This is the core and essence of all Individualized Education Programs (Linder, 1993a; 1993b).

**History to Contemporary Trends**

The story of mental retardation has undergone a sea of change over the last few centuries. There is drastic change in public perception of the problem, government, non government or voluntary initiatives for or on behalf of these persons, as well as in the academic understanding and definitions of mental retardation (Trent, 1994; Scheerenbeger, 1983; Tredgold, 1908; 1937).

**A. Public Attitude and Perception:**

There was a time in earlier history when persons with mental retardation were named 'idiots', 'imbeciles', 'morons', or 'mental deficient'. In present day parlance, these terms are viewed as derogatory and insulting. Later, there was a time when these persons were called 'mentally retarded' or 'mentally disabled'. Human rights activists in recent years have preferred use of positive terms like 'children with special needs', 'children with different abilities', or 'mentally challenged children' (Campbell et al, 1986). Recent trends are increasingly in favour of avoiding use of defamatory labels like 'blind', 'deaf', 'lame', 'crippled', 'insane', and so on for persons with disabilities. It is justifiably argued that the very use of such negative or stigmatizing labels
distorts the self image and sags the self confidence or lowers the self esteem of affected individuals (Snell and Voorhees, 2006; Finlay and Lyons, 2005; Beirne-Smith, Patton and Ittenbach, 2001).

In the history of disability rehabilitation, there was a time when the understanding of the problems of persons with physical or sensory handicaps was explained by means of invoking magico-religious or supernatural causes. ‘It is all a god’s curse or the machinations of a devil!’—was the common refrain. Later, this was replaced by what is now referred as ‘medical model’. According to this model, the person with a disability is viewed as a ‘poor’ (sic) victim of some disease. For example, the child with post polio residual paralysis is a victim of childhood infection called poliomyelitis. Or another child with mental retardation is viewed as a victim of encephalitis or brain fever. Nowadays, these models of understanding disabilities are no longer tenable. It is precisely on this ground that the classification of mental retardation by International Classification of Diseases (WHO, 1992) stands currently rejected.

In fact, the current model of understanding disabilities and impairments is based on ‘human rights model’. It denounces the ‘sympathy’ or ‘pity’ view of disability. They argue that the person with a disability is a human being in his/her own right. The current classification of persons with disabilities is based on another system called the ‘International Classification of Impairments, Disabilities and Handicaps’ (ICIDH) (WHO, 1980) or its latest
revision as 'International Classification of Impairments, Activities and Participation' (ICAIAP)(WHO, 2002). This renaming is to do away with the stigma and negative connotation attached to words like ‘disability’ and ‘handicap’. Persons with disabilities have their own range of assets and liabilities-just like any other non-disabled person. The environments around the persons with special needs must be made accessible and amenable to these persons rather than faulting them as ‘incapable’ or ‘handicapped’. For example, the non-availability of low height furniture may pose ‘handicap’ for persons with ‘dwarfism’ or the lack of literacy in use of ‘sign language’ or ‘Braille’ by non-handicapped peers may prove to be a barrier for communication in the person with hearing impairment or visual impairment. The fault is more in the non-disabled than in the person with disability (Rapley, 2004; Dunham and Dunham, 1978).

Public misconceptions and negative attitudes abound on or about mental retardation. Laymen and even several caregivers believe that the mental retardation in their wards could be the result of their past ‘sins’ committed in a presumed previous life. There are other misconceptions in the general public that playing or socializing with children having mental retardation can be ‘contagious’. It is often feared that the normal children will also become mental if they are left in the company of the affected kids (Ramdas and Mishra, 1987; Sethi, Sharma and Gupta, 1985; Murthy, Wig, and Dhir, 1980; Upadhyay, 1972; Gandhi and Agarwal, 1969).
Some children with mental retardation have behaviour problems, such as hitting others, throwing things, temper tantrums, etc. Surely, these behaviour problems are not an inherent part of the mental disability. If it were so, then non-retarded or so called ‘normal’ children would have not shown any problem behaviours at all. Behaviours problems are learned by virtue of certain visible or invisible ‘benefits’ derived by the child from others in their environment. They can also be unlearned if the caregivers use specialized techniques of behaviour remediation (Biklen and Bogden, 1977).

All said and done, the presence of problem behaviours become an enough justification or excuse for the general public to fear, dislike or disdain the individuals with mental retardation. All the governments across the world have realized the need and importance to be given for changing public opinion and attitudes in favour of persons with disabilities in general and mental retardation in particular. Even official systems of classification of disabilities, diseases or impairments have changed from the earlier ‘medical’ models to favour the views of the contemporary ‘human rights’ model (De Ploy and Gilson, 2004).

B. Government Initiatives:

In earlier times, there were no laws and legal protection for persons with mental retardation. They were denied even the basic human rights to vote, citizenship, marriage, stand witness in a court of law, membership in
The turning point in the history of disability rehabilitation was the promulgation of 1981 as 'International Year of Disabled Persons' (Ojha, 1981; Verma, 1981). This was followed by the declaration of 'International Decade of the Disabled Persons' (1981-1991). These declarations helped various nations across the globe to review and take stock of the status of persons with disabilities in their respective countries (First and Curcio, 1993).

At that time, there was hardly any coordinated activity in the disability sector in India. The only consolation was that the 'Constitution of India' recognized the rights of persons with disabilities and considered them as equal partners towards the progress of the nation (Basu, 1994; Servai, 1993). The then prevailing Indian Lunacy Act (1927) made no distinction between mentally ill and mentally retarded (Dhanda, 2000). Among the prominent legal enactments that have come into place since then for the welfare of persons with disabilities include: ‘The Rehabilitation Council of India Act’ (1992), ‘The Persons with Disabilities (Equal) Opportunities, Protections of Rights and Full Participation Act’ (1995), ‘The National Trust for Welfare of Persons with Autism, Cerebral Palsy, Mental Retardation and Multiple Disabilities Act’ (1999) (Gupta, 1977).

In the recent times, the Government has come forward with several broad based policies, programs and schemes related to the disability segment.

C. Contributions from Voluntary Sector:

Apart from government initiatives, there have been several seminal contributions from the voluntary sector towards the welfare of persons with mental disabilities. Despite poor coordination, leadership problems, funding issues, lack of professionalism and such other organizational issues plaguing
non-government or voluntary sectors in the area of disability rehabilitation in the country; they have ensued spread of services in the form of setting up several day care and few residential centres for persons with mental retardation (Pandey and Advani, 1996). The Home for the Mentally Deficient Children, Mumbai, established by the Children’s Aid Society in 1941, is said to be the first voluntary agency for mentally retarded persons in India. At present, there are an estimated 1200 day care centres for children with mental retardation across the country (Reddy, 1998).

D. Consumer Based Self Support Services:

Even as there are government and voluntary initiatives for persons with mental retardation, the country is witnessing a new trend of consumer participation in the handicapped care industry. Parents or caregivers of children with mental retardation are grouping themselves into registered groups or societies to initiate service facilities for the benefit of their own wards. At present, there are over a hundred registered parent self help groups for mentally handicapped persons in the country. Some of them have even availed a group insurance to ensure adequate economic and social security benefits. These movements hold a great promise for the future of mental retardation. Another significant change in the care industry for persons with mental retardation is the shift in the focus from in-patient, custodial or residential care to day care, respite home, ambulatory or itinerant services.
Community based rehabilitation services are particularly tuned towards providing services for children ‘at risk’, those with developmental delays and the mentally disabled persons at their door step. They emphasize on not dislocating the affected child from the family or the family from their respective communities. The idea is also to make best use of available resources within the family and community for optimum benefit of the individual with mental retardation. Community based approaches have been found to be cost effective and disability friendly exercise (Marigold, 1983).

E. Changing Definition of Mental Retardation:

All through out the past, there has been debate on the definition of mental retardation. Earlier mental retardation was defined as the population that falls below one standard deviation from mean score on a standardized test of intelligence such as Wechsler’s Intelligence Scale. By doing so, nearly 33 % of the general population fell on the side of what was earlier labeled as ‘Borderline Mental Retardation’ (Heber, 1959; 1961). Later revisions pegged two standard deviations away from mean on standardized tests of intelligence as statistical criteria for definition of mental retardation (Grossman, 1972; 1983). This left around 3 % of the general population as mentally retarded.

Within this population, the range of dispersion between -2.00 to -3.33 standard deviation (SD) is designated as falling under ‘Mild Mental Retardation’; -3.33 to -4.33 SD as falling under ‘Moderate Mental Retardation’;
-4.33 to -5.33 SD as ‘Severe Mental Retardation’ and below -5.33 SD units as ‘Profound Mental Retardation’ respectively.

Historically, four broad approaches (i.e., social, clinical, intellectual and dual criterion) have been used for purpose of definition and classification of mental retardation. According to social approach, persons were defined or identified as having mental retardation because they failed to adapt socially to their environments (Goodey, 2006; Greenspan, 2006). In the clinical approach, which follows the medical model, several signs and symptoms were used as basis for identification of mental retardation (Devlieger, Rusch and Pfeiffer, 2003). In terms of the intellectual approach, intellectual functioning or IQ is considered as basis for identification/classification of mental retardation. In dual criterion approach, both intellectual functioning and measures of adaptive behaviour are considered for definition of mental retardation (Jayashankarappa, 1986; Heber, 1959; 1961).

There is considerable discussion and debate raging in the field as regard to the appropriate nomenclature for mental retardation. There is a general preference for the used of the term ‘intellectual disability’ rather than ‘mental retardation’ (Schalock et al, 2007; Greenspan, 2006; MacMillan, Siperstein and Leffert, 2006; Schalock, 2004). The ‘American Association of Intellectual and Developmental Disabilities’ (AAIDD)-previously ‘American Association of Mental Retardation’ (AAMR)-Committee on Terminology and
Classification proposes to come up with these changes in their anticipated publication in 2009/2010 of the eleventh edition of the definition, classification and systems of support manual (Conyers et al, 2002).

Mental handicap (or mental retardation) is currently identified as significantly sub average level of intellectual functioning associated with deficits in adaptive behaviour and manifests itself during the developmental period (Grossman, 1972; 1983). In a more recent definition, mental retardation is defined as a disability characterized by significant limitations both in intellectual functioning as well as adaptive behaviour as expressed in conceptual, social, and practical adaptive skills. This disability originates before the age of eighteen (AAIDD, 2002; 2005; AAMR, 2001; APA, 2000).

The five assumptions essential to the application of this definition are:

- Limitations in present functioning must be considered within the context of the community environment typical of the individual’s age, peers and culture.
- Valid assessment considers cultural and linguistic diversity as well as differences in communication, sensory, motor or communication factors.
- Within an individual, limitations often co-exist with strengths.
- An important purpose of describing imitations is to develop a profile of needed supports.
• With appropriate personalized supports over a sustained period, the
life functioning of the person with mental retardation will generally
improve.

FUNCTIONAL PROGRAMMING

While assessment for diagnoses may be considered as beginning in the
process of identification of persons with mental retardation; this must be
quickly followed by working out schemes and procedures for their behavioural
remediation, training and habilitation. This is done by another sequence of
assessment procedures called as behaviour assessment (Anastasi, 1996).

Behaviour assessment is simply the process and procedure of
discovering what all behaviours a given child with mental retardation can do
and cannot do. Can he button his own clothing? Can she name colours?
Can she tell days of the week? Can he jump, walk, run, skip or dance? Can
the child eat or bathe by self? In short, it is an assessment of all the
behavioural competencies in a given child for his or her assessed mental age.
Such an inventory or profile of behavioural assets and/or deficits about a given
person with mental retardation will readily lend itself to planning a behaviour
intervention/remediation program. Obviously, the behaviour remediation
program has to be based on each one or all those behaviours which the child
cannot perform (Radhakrishnan, 1979).
Usually, any behaviour intervention program for children with mental retardation should combine focus on skill development as well as decreasing problem behaviours (Peshawaria and Venkatesan, 2002; Rao, Barnabas and Gopinath, 1989). Some children with mental retardation have negative behaviours. Problem behaviours in children cause great strain on others; harm themselves or others, reduce their social acceptability, are age inappropriate and even interfere in their learning or teaching process. Such behaviours have to be targeted for remediation immediately—even before a skill training program is envisaged (Rai, 1989). The specialized behaviour remediation program for children with mental retardation is governed by the following principles:

- Target behaviour/s for learning or teaching must be clearly specified
- Target behaviours or behavioural objectives are noted down in observable and measurable terms
- Ready made behaviour checklists are available in India as well as abroad to facilitate target setting or program planning for individual or groups of children with mental retardation
- Target behaviours chosen for intervention must be age, culture or gender appropriate to the needs of the child
• Targets behaviours must be functional or applicable for direct use in day to day living. It should minimize generalization and maximize ecological relevance.

• The chosen targets are broken down into smaller parts by a procedure called task analysis or task slicing.

• Each slice of the target behaviour is taught separately.

• The pace of teaching program is necessarily maintained according to the speed of the child. Under no circumstances, the children with mental retardation are forced into fixed, rigid or inflexible curriculum.

• Rewards or incentives are to be ensued immediately following the correct performance of the target behaviours.

• Play based and individualized instruction techniques are to be preferred to formal across the desk or chalk and talk pedagogy that may work with non retarded children.

• Group teaching strategies are preferred for inculcating social skills, communication and motor competencies.

• Over pressurized learning or teaching, comparisons with same aged peers, begging, bribing or bargaining for task performance are to be avoided.
• Specific behavioural techniques for improving skill behaviours in children with mental retardation are shaping, chaining, prompting, contingency contracting, token economy, reward training, etc.

• Specific behavioural techniques for decreasing problem behaviours in children with mental retardation are response cost, time out, reprimand, physical restraint, differential rewards technique, etc.

BEHAVIOURAL ASSESSMENT

At a general level assessment involves forming impressions and making judgments about others. It carries an evaluative flavour while dealing with the whole person. At a technical level, psychological assessment is defined as the process of 'systematic collection, organization and interpretation of information about a person and his situations (Sundberg and Taylor, 1962), to which is added, 'and the prediction of his behaviours in new situations' (Jones, 1970). The key element in assessment is the 'act of acquiring and analyzing information' (Hammill, 1998). The purpose of assessment varies from screening, identification, classification, placement and programming to certification and research (Thorndike and Hagan, 1977). In the context of persons with mental retardation, after the initial diagnostic assessment, a detailed assessment for programming and planning the intervention program is generally carried out for individuals or groups. The
simple logic underlying these programs is to list the behavioural deficits and excesses in a given individual before targeting them for behavioural remediation. In this regard, two areas that are covered in these assessments are (a) skill behaviours; and, (b) problem behaviours.

(a) Skill Behaviours:

The broad domain of skill behaviours typically covered for persons with mental retardation greatly depends on their mental and chronological age, cultural background and severity of their condition. For young children, behaviour assessment scales for planning early intervention programs cover areas like sensory activities, fine or gross motor behaviours, receptive communication skills, and adaptive behaviours respectively (Dave, 1990). Nonetheless, the curriculum for children with mental retardation must be always functional, easy to use, and directly applicable to activities of daily living. This is the essence of functional programming for children with special needs (Shamim, 1979).

The Activity Checklist for Preschool Children with Developmental Delays (ACPC_DD) (Venkatesan, 2004b) is an example of behaviour assessment scale. It covers 50 items each across eight domains like sensory, fine motor, gross motor, communication, play, pre-academics, self help and cognitive respectively. The coefficient of agreement on 46 cases of children with developmental disabilities carried out independently by two blind
examiners is 0.96 and internal consistency estimate on Kuder Richardson-20 (KR-20) confirmed the homogeneity of the item pool and the hierarchy of developmental age allocations made for items included in this checklist.

The Madras Developmental Programming System (MDPS) (Jeyachandran and Vimala, 2000) is another behaviour assessment scale for mentally retarded children between 3-18 years. It has 360 items covering 18 functional or behavioural domains. The test retest reliability coefficient for this scale is reported to be 0.94 and Cronbach’s Alpha for Internal consistency is reported to be 0.94.

The Behaviour Assessment Scales for Indian Children with Mental Retardation (BASIC_MR)(Peshawaria and Venkatesan, 1992a; 1992b) targets children between 3-18 years. It comprises of two parts. Part A deals with assessment of skill behaviours and Part B deals with the assessment of problem behaviours in children with mental retardation. The part A has 280 items covering seven domains of skill behaviour including fine motor, gross motor, activities of daily living, communication, prevocational-money, domestic-social and cognitive respectively. The Part B lists 75 commonly reported problem behaviours in children with mental retardation. The inter rater reliability coefficient for this scale is reported to be 0.83 and construct validity is 0.80.

For older children and adults with mental retardation, the behaviour assessment domains are likely to be different in their focus on advanced skills such as community orientation, money-time or calendar skills, life skills, social skills, manners and etiquette, sexual information and hygiene, vocational skills, etc. Examples of some such scales are Behaviour Assessment Scales for Adult Living (BASAL-MR)(Peshawaria et al, 1996), Vocational Training Checklist and Individualized Education Program (NIMR, 1995), Assessment of Vocational Readiness (Cornelius and Rukmini, 1998), Workshop Observation Scale (BMI, 1995) and others.

(b) Problem Behaviours:

Apart from the deficits in their skill behaviours; some, not all, children with mental retardation have ‘problem behaviours’ or what is also called as ‘challenging behaviours’. Previously, other terms like ‘aberrant behaviours’ (Forehand and Baumeister, 1976), ‘excess behaviour’ (Meyer and Evans,
1989) are also used. The term challenging behaviours was preferred to emphasize the point that the problem behaviours are not an inherent part of the intellectual disability (Qureshi, 1994).

Challenging behaviours are defined as 'behaviours of such intensity, frequency or duration that the physical safety of the person or others is placed in serious jeopardy; or behaviour which seriously limits the person’s access to ordinary settings, activities, services and experiences' (Emmerson et al, 1988).

According to Risley (1996), a challenging behaviour ‘is seen as dangerous or disruptive by those who work or live with the consumer’. Venkatesan (2004c) recognizes five characteristics of behaviours identifiable as problematic. They are:

- Potential source of danger and harm to self or others;
- Age Inappropriate;
- Interfere in the learning or teaching process of self or others;
- Cause undue stress on the others in the environment; and,
- Socially deviant.

Irrespective of the definition used, all problem behaviours are characterized by certain features in their occurrence, such as, frequency, duration intensity. As perceived by most laymen, the behaviour problems in
individuals with mental retardation are not an inherent part of their condition. This is despite the fact that children with mental retardation display higher base rates of non-compliant behaviours than normal controls (Quine, 1986). It has also been found that certain sub types of problem behaviours (example, self stimulation and self injurious behaviours) are found more frequently than others.

In an Indian study, the presence of ‘problem behaviours’ was reported as the second most frequent presenting complaint for a group of children with mental retardation after their deficits in ‘speech, language or communication’. Likewise, they also found that teachers of children with mental retardation from over 288 institutions across the country reported ‘restless and physically overactive’ as the most frequently encountered form of problem behaviour in school settings; just as parents reported ‘disobedience’ as the most frequently seen problem behaviour in these children at home settings (Peshawaria, Venkatesan, and Menon, 1990).

Fortunately, intervention approaches with children with mental retardation and challenging behaviours have evolved significantly (Lutzker and Campbell, 1994; Morris and Midgley, 1990). Such intervention strategies require a systematic behavioural assessment and behavioural formulation on or about the child with mental disability and his/her problem behaviour. This is followed by behavioural analysis and implementation of the intervention
techniques in the school or home settings (Venkatesan, 2004c; Aniah, Kumariah and Mishra, 1991).

Behaviour problems in children with mental retardation are better understood as either antecedent triggered or consequence determined actions. Antecedent factors include certain environmental triggers, faulty programming, teaching or training on goals not appropriate for the child’s mental age. Consequence related factors mediating problem behaviours in these children include attention, escape, skill deficits, self stimulation, and/or direct experience of rewards following their manifestation of their behaviour problems. The intervention strategies for management of the problem behaviour include techniques like extinction, response prevention, contingency contracting, time out, response cost, etc. Parents, teachers, and caregivers require behavioural counselling to correct faulty disciplining practices in the management of problem behaviours in their children (Venkatesan, 1993; Venkatesan and Vepuri, 1993).

B. PSYCHOLOGY OF PLAY

This second section of the introduction to this dissertation deals with the general psychology of play. It begins by giving the meaning and various definitions, goals, types, utility and concludes with the different theories of play.
Meaning and Definitions:

For centuries, play has been a universal phenomenon that has roused the interest of educators, psychologists, philosophers and others who have attempted to define it, explain it, understand it and relate it to the individual’s activities. Play is difficult to understand because it appears in such diverse forms. It is an activity engaged by all children, adults and even animals (Bruner, Jolly and Sylva, 1976; Erickson, 1976).

The word 'play' in relation to children is used to describe a wide range of activities (Winnicott, 1971; Wood, 1913). In the adult world, the use of this word has been used in terms of interpersonal relationships and referred by the term 'games that people play' as espoused by Eric Berne. Aristotle limited the use of word ‘play’ to childish activities. Plato regarded the word ‘sports’ as something important in life. Striving to define play in everyday use is a challenge. Some observers (Lorenz and Thorpe) recommend that play should not be defined because inter observer consensus on what is and what is not play is extremely high (Bateson, 1973). On the other hand, Bentovin (1967) disagrees and tries to distil a comprehensive definition of play from an extensive review of literature. Some sample definitions from Smith and Vollstedt (1985) are reproduced below:
Seashore: Free self expression for the pleasure of expression

Froebel: The natural unfolding of the germinal leaves of childhood

Hall: The motor habits and spirit of the past persisting in the present

Groos: Instinctive practice, without serious intent, of activities which will later be essential to life.

Dewey: Activities not consciously performed for the sake of any result beyond themselves.

Schiller: The aimless expenditure of exuberant energy

Spenser: Superfluous actions

Play has been variously defined by different investigators. The development of social skills, cognitive competencies, motor proficiency, facility for language or communication; or in short, the overall personality of the child is dependent on their play (Athey, 1988; Christie and Johnson, 1983). Deficits, delays or disturbances in these areas of development in children with mental retardation may be viewed either as a cause of consequence of their problems. When the child is unable to play, s/he looses out on social contacts. This loss will further alienate the child from use of language in daily life. The alienation will only aggravate the condition of the child to worse (Carpenter, 1983).
Man has long been recognized as social animal. The human infant shows a natural curiosity and inclination towards pro-social behaviours characterized by spontaneous smiles, eye gaze and anticipatory motor movements when approached to be picked up and so on. Play is an important medium for child development. It is defined as voluntary activity engaged for the enjoyment it gives without consideration of the end result (Piaget, 1962). Play is also a medium through which the child is ‘instinctively prepared to take up the role of adulthood’ (Jeffree, McConkey and Hewson, 1977). For younger infants and toddlers, play may be simply a means of ‘expending surplus energy....a method used by children to relieve certain powerful experiences and thus come to terms with them’ (Lansdown, 1985). Some investigators have viewed that play ‘recapitulates the history of their race’, or that it serves an ‘adaptive function’. While one may debate endlessly on the various definitions of play, its importance in the overall development of the child can be hardly discounted. Play activities can serve as recreational as well as propaedeutic task (Peshawaria, Menon and Reddi, 1991; Fine, and Fine, 1988; Fine, Lehrer, and Feldis, 1982; Wehman, 1979 Council for Exceptional Children, 1966).

Goals of Play:

For the child, the primary goal when playing is to have fun. There is an intrinsic enjoyment derived by the child during play. Besides, it facilitates social
adjustment, development and related skills. It improves physical health, language and cognitive development. Participation in play contributes to the overall well being of the individual or groups of children. For many children with special needs play becomes simply an opportunity to release their unspent or pent up energies in a constructive fashion (Fine, 1982; 1978; Ellis, 1973; Haynes, 1977; Hutchinson, 1951).

O'Conner (1991) identifies thee major functions of play: (i) Biological; (ii) Interpersonal; (iii) Socio-cultural. It is a medium through which the child learns many basic skills. It learns to coordinate eye hand movements by reaching, gasping and comprehension. It is a means of expending the surplus energy. It gives the child kinaesthetic stimulation. At an interpersonal level, play serves as means for fulfilling the human need to do something. It is painful, if not impossible to remain doing nothing. Play allows the child to gain mastery over a situation. In playing hide and seek, for example, the child explores his environment. Play lets the child to master conflicts through symbolism and wish fulfilment. At a socio cultural level, play is the medium through which children learn about their culture and those around them (Christie and Johnson, 1989). For example, the popular 'Ring-a-Ring Roses' played by preschool kids conveys a powerful message of the Great Black Plague during the Middle Ages-when people swooned to the ground!
Play has been long recognized as a creative and expressive activity that enables the child to translate impulses, feelings and fantasies into action-to ‘play out’ some of his problems. Play activities are significant for both, normal as well as troubled children. A troubled child is one who has suffered deprivations, frustrations; neglect bad treatments are exposed to crisis and disturbance in the family. For example, desertions, divorce, alcoholism, prolonged absence of the father and or endorsed absence of the mother or situations wherein the child is likely to suffer (Fromberg, 2002).

Play is also recognized to have an educational function. As an educational therapy it helps the child to deal with the difficulties and conflicts while they are in the process (Fewell and Kaminski, 1988; Fewell and Vadasy, 1983). Play is a channel of communication and means of expressing emotional difficulties for all children. It helps the child to free him self or herself from all internal conflicts, terrors and rages. Their experiences are inarticulate and complex and cannot be fitted into the scheme of communication based on adult concepts, biases, emphasis and taboos (Dimidjian, 1992).

Dramatic play, one of the types of play has been described as means to mirror a child. It is also an instrument for growth. It helps the child to reflect and encourage changes in attitude and adjustment. It supplies a laboratory in which a child may experiment the possible solutions to his problem.
**Types of Play:**

There are many types of play observed in children depending on their age/developmental levels (Brooks-Gunn and Lewis, 1982). The development of play in children is understood to occur in connected but discrete stages or phases (Hiedemann and Hewitt, 1992; Cohen, 1987). Some children move rapidly along them, while others are reported to be slower in their movement along these stages of development (Hughes, 1991; Fein and Apfel, 1979). Venkatesan (2000) classifies play into the following types:

1. **Non participant play**

   This refers to passive observation of others at play. This includes two subtypes:

   (a) **Onlooker Play**

   This refers to passive observation of others at play without comprehending the rules of the observed play.

   (b) **Spectator Play**

   This refers to passive observation of others at play with comprehension of the rules of the observed play.

2. **Solitary Play**
This refers to playing alone or all by oneself. This includes four subtypes:

(a) Autistic Play

This refers to playing alone or all by oneself in spite of proffered or available playmates.

(b) Parallel Play

This refers to playing alone or all by oneself in the companionship of available or proximate playmates.

(c) Segregated Play

This refers to playing alone or all by oneself as a result of refusal or non-acceptance in social play by peers (Eiferman, 1971).

(d) Isolated Play

This refers to playing alone or all by oneself as a result of refusal or non-acceptance in social play by peers owing to the child’s problem behaviours.

3. Toy & Pet Play
This refers to use of toys or pets during play. The role and importance of toys as adjuncts has been repeatedly stressed by many authors (Rubin and Howe, 1985).

4. Exploratory Play

This refers to a tendency to show curiosity or eagerness to explore or handle toys, pets or other objects or persons during play. This type of play is essential for facilitating children to learn or become familiar with their environments. Exploratory play helps children in three different ways: (i) It enables children to make new discoveries; (ii) It stimulates the child’s curiosity; (iii) It helps the child to learn new skills or practice certain already acquired skills (Jeffree, Mc Conckey and Hewson, 1977).

5. Symbolic or Dramatic Play

This refers to play activities involving acting out a concept as perceived by the performer. It contains rule based play without written lines and with few props. There may be a lone actor or many others. This includes:
(a) Pretentious Play

This refers to play involving pretension of activities during play. Examples are drinking milk from cup, eating with spoon, going to sleep, eating chocolate, etc.

(b) Representational Play

This kind of play involves use of surrogates to represent objects or situations. Examples are using leaves as money, wooden block as car, spoon as oar, etc.

(c) Enactive Play

This involves role play of entire sequence of behaviours of various persons or situations observed around. Examples: playing as teacher, father, mother, bus driver, doctor, etc.

6. Relational Play

This refers to the ability of the child to relate two or more objects as going together during play situations. Examples: Relating bat and ball, pen and paper, cup and spoon, etc.
7. Social or Associative Play

This is a type of participatory play with same aged, younger or older peers occurring at cooperative or competitive levels. This includes:

(a) Cooperative Pre rule/Imitation Play

There is mutual imitation of play activities though not necessarily governed by complete understanding of the rules by the players. Examples: running, jumping, sliding, climbing, etc. Also called free play, some investigators have attempted to develop normative and descriptive analysis of preschool free play in toddlers and preschool children (Greenwood, Walker and Hops, 1981; Masheder, 1989).

(b) Cooperative Rule Based or Exercise Play

This kind of play involves full understanding of the rules governing them. Examples: chasing, catching, hopscotch, etc. This type of play is common during middle childhood. The rules in play help, guide the children’s group behaviour. Game play is very organized in comparison to socio dramatic rule based play. Games involve two or more sides, competition and agreed upon criteria for declaring a winner. Children often negotiate rules in order to create the game they wish to play (King, 1988).
like checkers help the child to learn reasoning strategies. Card games encourage the awareness of mathematics and of the psychology of the opponents (Yamanaka, Furuya, Shibagaki, 1994).

(c) Competitive Play

This involves formal rules and active competition between players-either indoor or out doors. Examples: chess, carom, cricket, volleyball, etc.

Based on their content, play in children has been classified into the following types:

1. Water Play

Playing in/with water offers an almost irresistible attraction for young children. Water needs to be given at conspicuous place in all programmes designed for pre-school and kindergarten children. The term water play refers to free and unhindered use of water during which the child immerse various articles, pours, blows bubbles, or simply splashes or agitate it to produce movements. Soap, bubble bath and other foam producing agents are invaluable accessories for enriching this type of play. Additionally, it includes containers for pouring the water, absorbent material such as sponge and clothes and objects which can float. Funnels and strainers, small rubber dolls
unbreakable dishes, doll clothes, straws, bubble pipes, small cakes of soaps and utensils form the usual paraphernalia for this type of play (Fein and Rivkin, 1986; Jeffree and McConkey, 1976).

2. Clay Play

Clay serves as a raw material out of which things can be made for clinicians it serves as a projective tool as it supplies a means of communicating inner difficulties for young children who cannot themselves verbally. Children may simply look at the plasticine material, or they may pork and hit it or they may attempt to mouth it, or even chew and swallow it. Clay play can become (a) an aid in assimilating social demands; (b) as a channel for the expression of fantasy; and, (c) as an agent for evaluating emotional and developmental status.

3. Graphic Play

This type of play involves the use of graphic materials such as poster paints, easels, brushes, paint jars, crayons, newsprint, drawing paper and almost all kinds of stationery. It is not always necessary to expect and insist that a child paints or draws something representative of the outside world. The common adult question: “What are you drawing?” is a frequent misnomer for any given child. The drawings of children can also become a measure of their intellectual and emotional status (Venkatesan, 2002).
4. Finger Paint Experience

Finger paint play activities encourage creative expression through direct contact between creator and the product. It helps the children to overcome certain inhibitions as it is a form of a free flowing fantasy. Finger painting has been effectively used even for diagnostic and therapeutic purpose. Black and brown were used for themes indicating depression and hostility, blue and green for more cheerful themes. Inhibited, frightened and insecure children were partial to darker colours and, in the younger groups used only one color as a rule. The use of red was found to be associated with destruction by fire. Those children who fail to cover the sheet completely with paint may be suspected of being inhibited for frightened

Buhler (1928) and Hetzer and Hohn (1955) distinguished the following types of play.

1. Functional Play

The child achieves mastery over his movements. Growing mastery gives them greater pleasure.

2. Fictional Play

Play involves the use of imagination and meaning (Atkin, 1985).

3. Receptive Play
The emphasis of this kind of play is on intake of information by means of sensory processes.

4. Constructive Play

The creation of a product becomes the end aim of this kind of play (Christie and Johnson, 1987).

Piaget (1962) distinguished between sensory-motor play (0-2 years) and symbolic play (2-7 years) respectively.

1. Sensory Motor Play:

In sensory motor practice play, infants and toddlers experiment with bodily sensation and motor movements and with objects and people. By six months of age infants have developed simple but consistent action schemes such as pushing and grasping, to make interesting things happen. For example, an infant may push a ball and make it roll in order to experience the sensation and pleasure of movement. Older infants will push a ball, and crawl after it and retrieve it. Still later the infants learn that a ball rolls away, a top spins and a rattle makes a noise. By about 12 months children will throw or kick a ball and differentiate it from a rattles that needs a shake (Lyytinen, 1991; Vondra and Belsky, 1991; Belsky and Most, 1981; Fenson, and Ramsay, 1980; Rosenblatt, 1977; Fenson et al, 1976; Piaget, 1962).
2. Symbolic or Pretend Play:

Children develop the ability to represent experience symbolically; pretend play becomes a prominent activity. In this complex type of play children carry out action plans, take on roles, and transform objects as they express their ideas and feelings about the social world (Gowen, 1995; Garvey, 1984). Action Plans are blue prints for the ways in which actions and events are related and sequenced. Family related themes are popular with young children. Roles are identities children assume in play. Some roles are functional and necessary for a certain theme. For example, taking a trip requires passengers and drivers. Family roles such as mother, father and baby are popular. Children also assume stereo typed character roles drawn from the larger culture such as nurse or doctor and fictional character roles from television and books such as He-man or Super man. Construction play combining symbolic features is seen in late pre-schoolers. This kind of play with motion and rough and tumble play is popular in pre-school year. In this play groups of children jump, run and wrestle. Adults may worry that such type of play become aggressive and that they should probably monitor it. However, children participate in this play only to gain skill in their motor movements (Beeghly, 1998; Bretherton, 1984; Garwood, 1982; Fein, 1981; Brunberg, 1974).
Jansen-Vos and Pompert (1993) used a developmental perspective for classification of play in children. Their types include:

1. Movement Play
2. Manipulative Play
3. Free, Expressive Play
4. Role Play
5. Constructive Integrative Play
6. Rule Play

**Utility of Play:**

The investment of teaching time and energy on fostering play activities in children with mental retardation goes a long way in ameliorating their social, cognitive, communication and motor skills. Obviously, play activities for kids have to be fostered age appropriately. For example, an infant’s level of play is likely to be autistic-by clasping both fists and banging to own mouth. Toys or dolls may be of no interest for children at that age. Dragging furniture or banging metallic objects to produce loud sounds may be of great interest as play for beginning toddlers. Playing pat-a-cake or peek-a-boo game would be fascinating for older infants below one year of age. The same game will be of no interest for older kids (Frost, Wortham and Reifel, 2001; Fisher, 1992; Florey, 1971).
The variety of play activities that can be considered for stimulation of children at various age or stage levels can be endless. To facilitate sensory-motor skills and development children could be made to perform several gross motor and fine motor activities (Davies and Dubie, 2004). Gross motor skills include lifting one's head, rolling over, sitting up, balancing, crawling, and walking. Gross motor development usually follows a pattern. Generally large muscles develop before smaller ones. Thus, gross motor development is the foundation for developing skills in other areas (such as fine motor skills). Development also generally moves from top to bottom (Bergen, 1988).

Fine motor skills include the ability to manipulate small objects, transfer objects from hand to hand, and various hand-eye coordination tasks. Fine motor skills may involve the use of very precise motor movement in order to achieve an especially delicate task. Some examples of fine motor skills are using pincer grasp (thumb and forefinger) to pick up small objects, cutting, colouring and writing, and threading beads. Fine motor development refers to the development of skills involving the smaller muscle groups. Some more motor activities for toddlers can include colouring on large pieces of paper, smearing paints on their hands or legs, stomping on old newspapers, finger or palm paint, crayon, or cut with scissors. All these improve their strength and coordination of muscles. They need to learn balance on one leg, both legs, on moving surfaces, or precarious edges. They need to kneel, tumble, frog jump, duck walk, squat and perform sit ups. Ball play is another important activity.
They should learn to catch, hurl, throw, kick, aim and hit with ball. The child should be able to perform these in any or specified directions. They enjoy rolling ball of different sizes and weights back and forth even while sitting across one another. They jump and reach a hanging ball up the ceiling. They need to build towers of cubes and squares, kick them to collapse, lineout or make trains of blocks. They like to make bubbles, run around to pierce them, jump around to reach for flying balloons, inflate them or pierce them for the bang. Toddlers also need to be involved in obstacle games. They jump ropes, cross small things, walk between lines, step in and out of circles, old tubes and tires. Mirror activities and shadow play are other additional diversions for toddlers. The various parts of the body can be taught using mirrors. Music is another wonderful medium of play for young children. They sway and wriggle to music. They can play on instruments like toy drums and other noise makers. They can march past or play ‘follow the leader’ to the bang and rhythm of music (Chanco, 1979; Coates, Lord and Jakabovics, 1975).

Play can become a medium as well as an opportunity for young kids to develop their skills in communication (Casby and Ruder, 1983; George and Krantz, 1981). A wide variety of toys and games are available for children to learn communication related skills like listening, gesticulating, express emotions, vocalizing, conveying through body language, identifying signs and symbols, etc. Several social skills like those related to turn taking in games or activities, waiting, observation and imitation of peers, procrastination,
understanding or following rules, sharing, and others are once again invoked and used in play activities (Hoxter, 1977).

There is a broad range of literacy and cognitive related skills that can be fostered through play in children (Christie, 1991). Skills related to reading time or a calendar, understanding, handling or transacting money, identification, naming, discrimination, sequencing and generalization, can be taught or practiced through several games. Toddlers learn several basic concepts related to size, shape, colours, weight, direction, left-right, gender, animals, fruits, birds, vehicles, household articles, are easily taught to children through play methods. Most important of all is the training of young children in pre academic activities like pre-reading, pre-writing, pre-arithmetic through play. They are important precursors too teaching formal academics in later years (Christie, 1983; Cass, 1971).

Play in children has been successfully used for diagnostic purposes. It becomes the means for understanding their inner conflict, strife and struggles. As an assessment device, play gives an unstructured opportunity for kids to project their feelings and desires through the medium of play (Curry and Arnaud, 1995; Feigelson, 1974).
Theories of Play:

This section elaborates on the various theories of play as proposed by different investigators (Child, 1985). There are four major explanations of play proposed by early theorists. This is followed by recent insights into the subject.

A. Surplus Energy Theory:

This theory of play originated in the writings of 18th century philosopher Friedrich von Schiller (1875) and psychologist H. Spencer (1873). According to this theory, human beings have reservoir of energy that is used to satisfy primary needs such as the need for food. After the primary needs are met, left over energy in this reservoir is spent in play. Play is motivated by an inborn drive to use up energy within the reservoir. Once depleted, the reservoir is revitalized and the cycle repeats. A major criticism of this theory is that it is not consistent with predictions of the evolutionary theory. For example, it play involves the expenditure of superfluous energy, it would seem that play would be eliminated through natural selection. But, empirical evidence suggests that as one ascends in the phylogenetic scale, less time and energy is needed to satisfy the primary needs and more time and energy is available for play. Further, there is also no physiological evidence to suggest that unused energy backs up and creates a pressure, demanding release.
B. Relaxation and Recreational Theory:

This theory of play was proposed by Lazarus (1883) and Patrick (1916). In contrast to the surplus energy theory, this theory characterized play as the result of energy deficits. After engaging in physically and mentally exhausting work, the body needs sleep. In order to achieve full restoration, the body first needs to engage in play activities that help one escape from the reality based pressures of the work. This theory also holds that play is motivated by race memories, which are traces of our evolutionary past. For example, children enjoying reading books with animals or playing with teddy bears are explained as due to our primitive ancestors' dependence of wild life for sustenance. One major criticism of this theory is that children do not indulge in work to the same extent as adults. Also, there is no evidence to prove that there are race memories.

C. Practice or Pre-exercise Theory:

This theory was proposed by a neo Darwinian-Groos (1988; 1901). This theory believes that play is driven by instinct and has been acquired by natural selection. The purpose of play is believed to be preparatory or to practice the adult roles during childhood. The extended or longer childhood period seen as part of the higher species in the phylogenic scale is viewed as necessary to prepare one for the complexities of adulthood via play. A major criticism of this theory is that it is difficult to predict which play activities will prepare one
for tasks in adulthood. Moreover, in the contemporary world of rapid technological changes, preparations during one stage of life are fast becoming outdated even within the next few years. Under such circumstances, it is hard to claim that play is a preparation for adulthood.

D. Recapitulation Theory of Play:

This theory is expressed in the writings of G Stanley Hall (1920) and Luther Gulick (1898). This theory is based on the dictum that ontogeny recapitulates phylogeny. In other words, it means that the developmental changes during childhood re-enact the evolution of man through the ages. For example, embryonic development appears to mirror evolutionary development from the protozoan to Homo sapiens. Play is viewed as a vestige of the evolutionary past. The hard running, the aiming toward a target, and the use of club in baseball are contemporary versions of the hunting activities of our evolutionary past. The most telling criticism of this theory of play is the assumption that plays must follow a certain developmental course reflecting our past. Many changes during the evolution are not represented in the development of play in contemporary children. Moreover, the theory cannot account for the fact that regressions may occur in play.
E. Vygotsky's Theory of Play:

Lev Vygotsky, a Russian psychologist (1896-1934), described the child’s play as means for development of abstract meaning separate from the object in the world. This is a critical feature in the development of higher mental functions. The famous example Vygotsky gives is of a child who wants to ride a horse but he cannot. As a child under three, he would perhaps cry and become angry. Soon, his relationship with the world change. Henceforth, the play of the child becomes imaginary, illusory realization of unrealizable desires. Imagination is a new formation that is not present in the consciousness of the very young child. It is totally absent in animals. He wishes to ride a horse but cannot. So he picks up a stick and stands astride of it-thus pretending to ride a horse. As the child grows older, the reliance on pivots like sticks, dolls or other toys diminish. They have internalized these pivots in imagination. The old adage that child’s play is imagination in action can be reversed. We can say that imagination in adolescents and school children in play is without action. Play also helps in the development of social rules. For example, when children play 'house', and adopt the roles of different family members, the child acquires self regulation (Berk, 1994; Vygotsky, 1966; 1978).
F. Piaget’s Theory of Play:

In this theory, the focus is on cognitive development in children. According to Piaget, children have cognitive structures and schemas that are totally different from those of adults. Hence, their view of the world is likely to be different from those of the adults. Piaget identifies four major stages of cognitive development proceeding from sensori-motor (0-2 years), preoperational (2-7 years), concrete operational (7-12 years) to formal operational (12+ years) stage respectively. Piaget viewed play as imposing ones way of thinking upon the world. A child at play is exercising his cognitive schemes and operations on the world just for the sheer joy of exercising them. A child at play might try out a banging scheme on everything encountered. Example: banging the table, banging the crib, banging toys or even oneself. Qualitatively different types of play are engaged at different developmental stages. These are divided into three broad categories of play:

- Practice play occurs during the sensory motor stage of cognitive development.
- Symbolic play makes believe play. It involves having one thing represent another thing or something else. The child progresses from solitary play when schemes are tried out of ones own to parallel play and cooperative play. Parallel play is demonstrated by young preschoolers who may play with the same toys sitting side by side but
make no attempts to interact between each other. During later preschool years, when cooperative play emerges, the kids interact with each other. This type of play is associated with mastery of expressive language. Children at this stage are still egocentric and are unable to take the perspective of others. Hence, they may show difficulties in sharing. It is not so much that the child does not want to. Rather it is that he cannot do (Elder and Pederson, 1978).

- Competitive and abstract forms of play emerge with increasing age during middle and later childhood years. During this stage, playing is not merely to play. Play is to win. In the previous stages or forms of play, the child did not comprehend the rules of the game. In this stage, along with simultaneous development of morals, the child has started to appreciate the rules of the game, or that rules have to be followed and respected, infringement of the game rules amounts to cheating, or that winning any game by cheating does not amount so much to a win.

Piaget also recognized the importance of maturation, physical and logico-mathematical experiences, and social environment as three critical influences in the development of play in children. Maturation is preprogrammed changes. Physical experience involves learning about the physical properties of objects, such as, rocks are hard, cotton is soft, ice cream is cold, sand paper is rough and so on. Logico-mathematical experiences are gained by seeing what one can do with things in the
environment. For example, realizing that five cubes lined in a row or piled on one another would still make only five cubes. Or that number five remains the same irrespective of whether one counts cubes or blocks or stones or shells. There are games and cognitive exercises that aid children to come to terms with abstract concepts like justice, greed, envy, and/or even death (Hemmings, 1989). Children with special needs run a great risk of not being able to receive enough logico-mathematical experiences. A child with physical disability may not have the same kind of rich play experience as his non-handicapped peer. A child with visual impairment does not get feedback concerning how objects appear from different perspectives or in their explorations of the environment (Belsky and Most, 1981). Children with mental retardation show difficulties in interacting with toys or same aged peers in the same way as non retarded children do. Their plays are less spontaneous, passive, with a characteristic absence or diminish of symbolic play (Hill and McCune-Nicolich, 1981) A similar finding has been notes in children with autism (Fine, Lehrer and Faldis, 1982). It is also reported that it is possible to train children in symbolic play-wherein such deficits are observed in children (Christie, 1983)

The third dimension of influence on play in children is their social environment. Piaget recognized the importance of interacting with peers who are slightly advanced than oneself in order to facilitate better play in children. This implies that mentally retarded kids must be given opportunities for
interaction with peers who are cognitively advanced than themselves. Gottfried (1984) pleaded for intensive home based stimulation activities and enriched home environments to facilitate early cognitive development in children. Banett and Kane (1985) noticed that children with hearing impairments appear to lack in skills related to social play as compared to same aged children with normal hearing. It is also important to note that children with special needs having deficits in social communication again in a great risk of social rejection by play mates. It may not be so much of their inherent play deficit as it is their difficulties in communication that may sometimes drive many of these children to prefer solitary of autistic play (Venkatesan, 2004).

The major criticism of Piaget’s theory has come about his characterization of development as an invariant sequence of stages in which there is no turning back (Sutton-Smith, 1966). It is argued that although the stages of play described by Piaget may be correct, they are not as discrete as originally suggested. Most of his observations rested on children from he normal population. It is generally believed that children with mental retardation progress through the same Piaget’s stages in the same sequence, but at a slower rate than non-retarded children.

G. Learning Theory of Play:

This theory views play as learned behaviour. It involves those actions that are reinforced. Punishment also affects play. For example, it is noticed
that punishment by peers contributes to the learning of play with gender appropriate toys in young children (Lamb, Easterbrooks and Holden, 1980). Reinforcement and punishment also explains the relationship between the activities children seem to enjoy and level of accomplishment. Modeling is also demonstrated to have an effect on aggressive play behaviours in children (Bandura, 1973).

From this theory, it implies that a child who fails in a given play activity will not prefer to continue to indulge in it since failure is likened to punishment and punished behaviour is not repeated. Three other theoretical orientations can be reviewed to understand the phenomenon of motivation: (a) attribution theory; (b) Locus of Control; and, (iii) the theory of flow.

Attribution refers to the cause and the outcome of behaviour as it relates to success and/or failure. Success or failure can be attributed to one of the four causal factors: ability, effort, task and luck. The causes are inferred on the basis of several factors including specific informational clues (like past success history and social norms), causal preferences, reinforcement history, as well as communication from others. This theory explains why some children play in specific activities-depending on how they appear to feel competent and therefore display mastery behaviour (Weiner, 1985; Dixon, 1979).

Social learning theory provides an alternative to understanding motivation. Locus of control refers to the perceived results of ones efforts as it
relates to success or failure. It pertains to the belief that a response will or will not influence the attainment of a reinforcement. It is a problem solving generalized expectancy addressing whether behaviours are perceived as instrumental to goal attainment regardless of the specific reinforcer. Attributing success or failure to internal factors such as ability or effort is characteristic of internal locus of control. In this case, the individual feels that the results obtained were a direct outcome of actions which s/he was responsible. On the other hand, external locus of control is where the individual feels that his actions had no bearing on the outcome. Efforts must be initiated to enhance the internal locus of control of persons with disabilities.

Czikszentmihalyi (1974) viewed play as a cohesion of their self awareness. He classified this as flow-an interactive concept. In different work or play situations, some people become so involved in the activity. They lose a sense of reality and experience an ecstatic flow.

A merit of learning theory is that it lends itself readily to remediation of children with deficits in play behaviours. Play behaviours can be broken down into small and manageable parts. Each slice of the behaviour can be then taught in a hierarchical manner for the child with mental retardation to learn that play behaviour on the whole. Further, since imitation is another way for learning new responses, it is important to provide opportunities for special children to learn to play from non-handicapped peers. In summary, learning
principles can be used to explain play behaviour. But, this theory does not address on the effects of play on emotional development. The psychoanalytic theory discussed below provides and explanation of play in terms of ones emotional development.

H. Psychoanalytic Theory of Play:

This theory holds that there are two major purposes of play. It provides an avenue for wish fulfilment. Children act out roles in play that are beneath their dignity such as pretending to be an animal or baby. It enables them to regress to a state that symbolizes comfort and security. The second purpose of play is to master traumatic events as well as express internal feelings. Children use play to work through and master complicated psychological difficulties of the past and the present. This has become the basis for psychoanalytic based play therapies. Melanie Klein is the greatest proponent of the use of symbolic play of the child 'to gain access to and liberate his fantasy' (Klein, 1932). Close to her, but slightly different, Anna Freud (1947) that the child was still related to reality of parental figures and that play is more expressive of daily happenings in the life of the child (Waelder, 1933).

I. Arousal Theory of Play:

The 'Arousal Theory of Play' (Fein, 1981; Ellis, 1973; Berlyne, 1969) views play as motivated by the need to elevate the level of arousal towards the
optimal. On presentation of a novel stimuli, there is a physiological arousal and an orienting response which is reflected in body changes like increase blood pressure, heart rate, pulse, etc. However, after repeated presentation, the novelty is lost and so is the arousal. The Ascending Reticular Activating System (ARAS) is implicated as the main centre in the brain that mediates in consciousness and the arousal activity. According to this theory, there is an optimal level of arousal that one seeks to maintain in the ARAS called as 'sensoriastasis' (analogous to the concept of homeostasis). If one is over stimulated, the organism seeks to reduce the stimulation. If one is under stimulated, one seeks to increase stimulation. Play occurs when one is under stimulated. It is a stimulus seeking behaviour.

It has been shown that the ARAS of children on the autism spectrum is faulty. The children are overwhelmed by all the stimuli coming through this filter mechanism. And, their way of warding off the excess stimuli is to shut themselves away from outside stimulation and indulge in repetitive, perseverating or stereotyped behaviours. This theory has been criticized on the grounds that it does not sufficiently explain stereotyped behaviours.
ASSESSMENT OF PLAY

Even though play is unmistakably an important area of activity for all children, there has been very little work in the area of their assessment. It is important to discover just what are the contemporary play activities or behaviours of children. How do they engage themselves during their free time? What are the toys or play gadget currently available with them? How much time do they indulge in the various play activities? Who are their significant play peers? What is the involvement of the adults in the play activities of the children? All these questions and many more similar ones become the basis for assessment of play in children.

Fewell and Glick (1993) suggested use of observation techniques for assessment of play in infants and young children. Based on such observations, a ‘Developmental Activities Screening Inventory’ was developed (Fewell and Langley, 1984). These investigators suggested the use of play assessment procedures for examining cognitive, communication, and social skills in children with multiple handicaps (Fewell and Rich, 1987). In another similar study, play room observation procedures were developed for assessment of children with mental retardation and ADHD (Handen et al, 1998).

Research in the area of objective assessment of play behaviours or activities for children—especially those with developmental disabilities is
wanting in the western as well as Indian literature. A few play activities have been listed by some authors along with norms for certain plays in various age groups of children (Barnes, 1971).

Crowe (1974) gives ideas for generating a number of play group activities for children of different age groups. The representative sample of their suggested activities include sensory motor skills, indoor and out of doors activities, single or group based past times, pleasure for leisure occupations, etc. This is supported by similar observations made by Iso-Ahola (1980).

Currie (1969) attempted to evaluate the function of mentally retarded children through their use of toys and play activities. The children with lower levels of intelligence were found to make restricted use of toys, and for limited time.

Rogers (1982) carried out an extensive review of earlier and contemporary methods for assessment of young children’s play activities. They covered methods like classroom and field observation, interviewing children, parents or caregivers, use of rating scales, behaviour assessment checklist s, video recording, etc.

At present, there are some behaviour assessment scales which include play or play related activities and behaviours as one of the domains during their assessment of children. For example, the Activity Checklist for Preschool
Children with Developmental Delays (ACPC_DD) (Venkatesan, 2004) has age graded exclusive list of 50 play activities for children between 0-6 years. Most behaviour checklists include play related activities in other domains like ‘sensory’, ‘motor’, ‘social’, or other domains. This situation brings about a need, possibility and requirement to have an exclusive and comprehensive list of play activities for children with mental retardation. Such a play activity checklist would become at once useful to identify the contemporary involvements in play by a given child or group of children. It will also lend itself as useful tool for activity programming on play related behaviours for teaching, remediation or intervention for children with mental retardation.


**PLAY THERAPY**

The accurate and reliable assessment of play behaviours in children can become a useful basis for planning and implementing appropriate play
based therapy programs for children with special needs (Docker-Drysdale, 1998; Woolfson, 1990; Dorfman, 1951).

There are several forms of play therapy given or attempted by different investigators (Axiline, 1989; Guerney, 1984; Charles, Schaefer and O'Conner, 1982). One classification of play therapy is based on whether it is individual or group (Leland, Walker and Toboada, 1959). Some distinguish between school based, home based and family based play therapy (Eaker, 1986). Some investigators have worked in clinical settings, homes or schools of the children, or even in their natural outdoor settings (Rivkin, 1995; Hendry, 1985; Dockar-Drysdale, 1968).

Some researchers have used 'relationship play therapy' whereby teachers, elementary school counsellors, mothers or caregivers become facilitators and play mates or activators during play based interventions with children (Dee et al, 2005; Binney, 1991; Atkinson and Mead, 1981; Brady, 1978; Bishop and Chace, 1971). Play therapy has been attempted in affected as well as non-affected, troubled, disturbed or so called 'normal' children (Craig, 1994). It has been tried with great benefit on children with disabilities (Dorothy et al, 1985; Leland, and Smith, 1965), those with emotional disturbances (Dorothy, 1993), sick children (Mahoney, 1992), children in crises (Webb, 1991), or those who have suffered various forms of abuse (Baker, 1986). Davis (2000) reported the usefulness of play as adjunct to therapy in

Jernberg (1979) used the term 'theraplay' to designate the therapeutic prowess of play based activities for children. The play techniques, it was insisted, must be assessed and tuned to the age and developmental needs of the targeted children (Jeffrey, 1984).