NETAJI SUBHAS OPEN UNIVERSITY

B. Ed. Spl. Ed. (M.R./H.I./V.I.)-ODL

INTERVENTION AND TEACHING STRATEGIES

C-14 (MR)

B. Ed. Spl. Ed. (M. R. / H. I. / V. I)-
ODL Programme

AREA - C

C - 14 (MR) : INTERVENTION AND TEACHING STRATEGIES

A COLLABORATIVE PROGRAMME OF
NETAJI SUBHAS OPEN UNIVERSITY
AND
REHABILITATION COUNCIL OF INDIA

AREA - C
DISABILITY SPECIALIZATION
COURSE CODE - C-14 (MR)
INTERVENTION AND TEACHING STRATEGIES

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The Self Instructional Material (SIM) is prepared keeping conformity with the B.Ed.Spl. Edn.(MR/HI/VI) Programme as prepared and circulated by the Rehabilitation Council of India, New Delhi and adopted by NSOU on and from the 2015-2017 academic session.

Mohan Kumar Chattopadhyay
Registrar

Netaji Subhas Open University

From the Vice-Chancellor's Desk

Dear Students, from this Academic Session (2015-17) the Curriculum and Course Structure of B. Ed.- Special Education have been thoroughly revised as per the stipulations which featured in the Memorandum of Understanding (MoU) between the Rehabilitation Council of India (RCI) and the National Council for Teacher Education (NCTE). The newly designed course structure and syllabus is comprehensive and futuristic has, therefore, been contextualized and adopted by NSOU from the present academic session, following the directives of the aforesaid national statutory authorities.

Consequent upon the introduction of new syllabus the revision of Self Instructional Material (SIM) becomes imperative. The new syllabus was circulated by RCI for introduction in the month of June, 2015 while the new session begins in the month of July. So the difficulties of preparing the SIMs within such a short time can easily be understood. However, the School of Education of NSOU took up the challenge and put the best minds together in preparing SIM without compromising the standard and quality of such an academic package. It required many rigorous steps before printing and circulation of the entire academic package to our dear learners. Every intervening step was meticulously and methodically followed for ensuring quality in such a time bound manner.

The SIMs are prepared by eminent subject experts and edited by the senior members of the faculty specializing in the discipline concerned. Printing of the SIMs has been done with utmost care and attention. Students are the primary beneficiaries of these materials so developed. Therefore, you must go through the contents seriously and take your queries, if any, to the Counselors during Personal Contact Programs (PCPs) for clarifications. In comparison to F2F mode, the onus is on the learners in the ODL mode. So please change your mind accordingly and shrug off your old mindset of teacher dependence and spoon feeding habits immediately.

I would further urge you to go for other Open Educational Resources (OERs) - available on websites, for better understanding and gaining comprehensive mastery over the subject. From this year NSOU is also providing ICT enabled support services to the students enrolled under this University. So, in addition to the printed SIMs, the e-contents are also provided to the students to facilitate the usage and ensure more flexibility at the user end. The other ICT based support systems will be there for the benefit of the learners.

So please make the most of it and do your best in the examinations. However, any suggestion or constructive criticism regarding the SIMs and its improvement is welcome. 1 must acknowledge the contribution of all the content writers, editors and background minds at the SoE, NSOU for their respective efforts, expertise and hard work in producing the SIMs within a very short time.

Professor (Dr.) Subha Sankar Sarkar
Vice-Chancellor, NSOU

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First Edition : April, 2017

Printed in accordance with the regulations and financial assistance of the
DEB-UGC, Government of India

C-14 (MR) ❐ INTERVENTION AND TEACHING STRATEGIES

Unit-1 ❑ Intervention

Structure

1.1 Introduction:

Early intervention (EI) is a system of professional services provided to children from birth until about five years of age who are disabled, have delayed development or are at risk of delayed development. To help children with disabilities, it is essential to focus on the earliest years of development, since this is a critically important time for early learning which powerfully affects the child's future life course. It involves planned professional intervention organized around relatively brief periods of time for the very young children so that they may receive sufficient adult attention. There are different ways in which training for intervention, and intervention itself, can be provided-in the home setting, in a centre, or by adopting an approach that combines the two. The rapid advances in medical technology have successfully increased the survival of high-risk babies, thus adding to the number of babies who might end up with developmental delays and disabilities. Therefore, special focus is required to address the existing deficiencies in providing early intervention services. Further, the major hurdle in the development of these services is lack of trained professionals. To reach out to those unreached, the vital step is human resource development and the need to develop a cadre of professionals who can provide services even in the rural areas through a single window service delivery system. This Unit also delineates Documentation, which helps in reviewing and evaluating a programme objectively. Thus leading to quality in the programme and a scope for improvement. Further, the services are not only provided in schools but also in varied settings. This unit is also intended to orient you the various aspects of record maintenance and documentation at the preschool level. In this context, it can be highlighted that inclusion is not merely a place, or an instructional strategy, or a curriculum' inclusion is about

belonging, being valued and having choice. The socio-political context in which'children and families live and work also impacts inclusion. This is how our society should view high-quality early childhood care and education for all children. In other words, if providing high quality child care for typically developing children is not a societal priority, providing high -quality child care for children with disabilities will not be a priority either.

1.2. Objectives:

After going through this unit, you will be able to:

- Understand the concept of early intervention
- Understand the implication of early intervention for preschool inclusion
- Become familiar with the service delivery models
- Understand the steps of early intervention
- Understand the interventional services approaches
- Explain the various role of professional in early intervention
- Understand the meaning and importance of documentation
- Understand the concept of early childhood education
- Understand the implication of early intervention for preschool inclusion
- Understand the key experiences in preschool curriculum

1.3. Concept, Significance, Rationale, Scope, Advantages of Early Intervention

1.3.1 Concept of Early Intervention (EI)

- Early intervention is the first intervention strategy in the process of rehabilitation.
- Early intervention may focus on the child alone or on the child and the family together.

- EI programs may be centre based, home based, hospital based or a combination.
- Services range from identification - that is, hospital or school screening and referral
- services to diagnostic and direct intervention programs.
- EI may begin at any time between birth to school age.
- Early intervention refers to the introduction of planned program, deliberately timed and arranged in order to alter the anticipated or projected course of development. (Siegel, 1972).
- EI services are specialized health, educational and therapeutic services designed to meet the needs of infants and toddlers, from birth through two, who have a developmental delay or disability, and their families (US Department of Education).

1.3.2 Who needs EI?

Children with Biological Risk	Developmental Disabilities	Environmental Risk
Low birth weight Prematurity Birth injuries Prenatal and Natal injuries High risk mothers	Cerebral Palsy Epilepsy Autism Mental Retardation Children with Learning Problems Sensory Impairment	poor nutritional status Poor Socio economic status Lack of stimulations

1.3.3 Areas to be covered by EI:

- Physical (reaching, rolling, crawling and walking etc.)
- Cognitive (thinking, learning, solving problems)
- Communication (talking, listening, understanding)
- Social/Emotional (playing, feeling secure and happy) and/ or
- Self-help (eating, dressing).

Professional involved in Early Intervention:

The Early Intervention Program offers a variety of therapeutic and support services to eligible infants and toddlers with disabilities and their families, including :

- family education and counselling, home visits, and parent support groups
- special education
- speech pathology and audiology
- occupational therapy
- physical therapy
- psychological services
- medical services
- nutrition services
- social work services
- assistive technology devices-see

1.3.4 Rational for Early Intervention:

- Early periods of development are critical in nature. The rate of development of the preschool (especially 2-6 years) is so rapid that the child can given more learning experiences.
- As the developmental pattern follows cephallo-caudal and proximo-distal direction, EI can promote better development and control of the cortex to the bodily functions.
- Children are by nature very flexible and their growth and development can be modified extensively in a variety of directions.
- EI helps in proper-shaping the behavior.
- EI helps the mothers or caretakers to handle the child in a more scientific way.
- EI helps the professionals to prescribe the remedial plans at the right.

Arguments relating to the child :

- EI also fulfils a remedial function.
- EI reduces the side effects of chronic illnesses and permanent functional impairments.
- EI helps in preventing the occurrence of disability.

Arguments relating to the parents:

- Early intervention is an effective way of helping parents to deal with their handicapped children.
- EI prevents the parents from being deprived of information. This information can relate to :-
- a) The diagnosis, the cause of the handicap and the prognosis;
- b) Knowledge about normal development and about how a retarded and/ or disturbed development needs to be stimulated
- c) The social system of previsions that are available to them
- EI can prevent brothers and sisters from acquiring an unfavorable or disadvantageous position within the family as a result of which their own development may be hindered and behavioral problems may arise.
- EI can ensure that the family as a system and the family as network (grandparents, uncles and aunts) learn to adjust themselves to the situation of coping with a handicapped child.
- Alleviation of the burden to the family, among other things by offering family assistance etc.

Arguments relating to Society:

- EI makes society aware of the fact that there are also young children with developmental disabilities who are part of the community and have a right to support.
- EI enhances the opportunities of the children, since they go through school more successfully.

1.3.5 Early Intervention in Various Disabilities:

The UNCRPD stresses the importance of habilitation and rehabilitation beginning at the earliest possible stage and being based on individual needs and strengths. Early identification, availability of services, trained professionals and information and support to families are all considerations of quality early intervention services. The demand for early intervention is expected to grow as the survival rate of high-risk babies is increasing with advances in medical technology, and consequently the number of babies who might end up with developmental delays and disabilities is increasing. Due to the absence of

a universal new born screening program coupled with the lack of awareness, majority of babies born deaf in India have been missing the opportunity of getting early intervention.

The Early Intervention curriculum is indigenous and primarily focuses on language, audition and early literacy skills. The EI services for children with visual impairment is required to detect blindness and prevent further disabling condition early in life and hence reduce the impact of visual impairment. The services are provided to accelerate the rate of development in the child and to facilitate acquisition of new behaviour patterns and skills by the child that enhances skills for independent functioning of the child with visual impairment.

Since children with autism find it difficult to work in large groups, the early intervention services for them should follow a structured program of one-on-one training or training in small groups to help attain individual goals. Early intervention services for children with 105 cerebral palsy comprise multiple interventions such as medical intervention for premature babies who might be 'at risk', family counselling, family training, physical, occupational, speech therapy and/or special education intervention for children below the age of three years of age. Early Intervention services are crucial for children with cerebral palsy, since the services can take advantage of the plasticity of the brain and provide opportunities for optimal development of the child's potential. It is important that early intervention services adopt a family centred approach, rather than a child-centred approach, since families are key to ensuring the best results for the child. Many children with Multiple Disability may require specialized intervention and environments for longer than other children receiving early intervention.

1.4 Types of Early Intervention

The early interfvention services are provided through various types of delivery system as described below—

1.4.1 Home-based Programme:

Home-based Programme initially early intervention programmes where home-based, mainly for the benefit of rural families as they were far from health facilities. The key persons in a home based programme are the home visitors. They need not be

professionals. In fact, if they are SF passed and receive intensive training in early intervention and have good supervision and guidance, then they do equally well. The home visitor is the active agent who takes the planned system of skills based sequentially, to the home and fulfills the role of a counselor and friend to both mother and child. The mother teaches the suggested activities based on the skills to her child and reports the progress to the home visitor at each visit. She in her turn, reports back to the supervisor regularly. In this way, the child's progress cap be constantly monitored and the skills adjusted as necessary.

Advantages

- The child learns in a natural environment. The training is provided in the home setting, and therefore, what is learnt is directly applicable. There is no need for transferring the learning from a centre-based situation to home conditions.
- Parents are fully involved in their child's learning. It is convenient for them as there is minimal disruption, for example, with respect to looking after other children, making transport arrangement, etc.
- Materials needed for stimulating the child are available at home and ease to use.
- All family members can learn the interventions skills and carry them out with the child.

Thus, the child receives the stimulation and the mother is relieved of full time responsibility of the child.

- Because of the home visits, the intervener has a good understanding the family and its strengths and problems. Through this, she/he is able to adapt the training procedures and activities on the basis of the strengths and resources of the family, and the needs and abilities of the child. The training programme is thus individualized.
- The method is cost effective as the only investment is remuneration for the intervener for her/his time, skill and expenses on transport.
- Home-based programme are most appropriate for rural areas and in those places where transportation is a problem, making it difficult for the parent to bring the child with disability to a centre on a regular basis.

Disadvantages

- A home trainer can cover only a limited number of children due to the distances, travel time and individualization of the programme. Therefore, is he/she has more children to attend to, she /he might visit a child just once a week, or even less frequently than that.
- Parents who may lack skills are responsible for implementing much of the intervention.
- Teachers spend potential planning and instructional time traveling from site to site.
- No opportunity exists for peer interaction and socialization.
- The family will not have a chance to meet other such families and have an exchange, which is a very important process in accepting the child's disability and developing parents' self-help groups.
- The child may need the services of more than one expert, which a home trainer may not be able to provide.

1.4.2 Centre-based Programme:

Center-based early intervention is usually carried out in a children's hospital, a clinic or a center for children or a rehabilitation center for disabled children. If such programmes are in hospitals they are part of OPD services and are conducted daily. They are usually attached to a Department of Neonatologyl Pediatrics. In the latter case, they are offered daily on a full-time or part-time basis.

In center-based early intervention, the services of units like physiotherapy, occupational therapy speech therapy are also available and are provided as part of the programme. In addition, a Children's Hospital has other units like Departments of Neurology Cardiology, ENT, Ophthalmology, etc., where center-based children can be referred for tests and consultation. For multiple disabled infants, a center-based programme becomes imperative. However, the 106 effect of early intervention can only be gauged over a long-term, mothers who are overburdened, or have other young children or who have to travel over long distances, usually are unable to continue unless there is family support. Unfortunately, very few hospitals so far have undertaken such programmes as they involve additional expenses. In center-based early intervention, the supervisor can be a

pediatrician or a public health nurse, therapist or a special educator with knowledge in child development and experience in early intervention. Under her, she may have staff who are trained (equivalent to home visitors) and who give the planned system of skills sequentially to the mother individually. She works in the same way as a home visitor and guides the mother periodically in learning activities based on the skills.

Advantages

- The major advantages of centre - based early intervention is that the child gets direct services from the experts using suitable aids, appliances and assistive devices. The parent/caregiver learns and clarifies doubt from the experts, and therefore, feels more confident about the intervention.
- All primary support services are housed in one location.
- Teachers have more time for planning and instruction.
- Situation promotes peer interaction and socialization.
- The children learn from other children and also develop social skills by playing with other children.

Disadvantages

- Cost of providing facilities and range of services is high.
- Center may need to provide transportation and bus aides, which increases cost. Also parents have to travel with the child to reach the centre, which may mean a day's wages apart from the travel expenses.
- If not properly planned, having too many people to guide the parents may confuse them.
- All experts may not be available in all the centres.
- There is a likelihood of a lesser degree of parent and family involvement.

1.4.3 Mixed (Centre and home based) Intervention:

There are some agencies which offer both home based and center based early intervention. It is offered to those families in urban areas who are far away from centers offering early intervention and where health services are lacking. The latter programme is offered to those families who live in districts and can come to centers on a fortnightly or monthly basis. The programme is also offered to those infants who are multiply disabled

and who need paramedical and other services (for instance, babies with convulsive disorders).

1.4.4 Direct strategy of home based and centre based intervention

(a) The home visitor is introduced to the parents following the initial contact by the supervisor while the mother is still at the hospital. During the initial contact, the parents are given a brief account of the service.

(b) The home visitor on his/her introductory visit, gives further information regarding the service and gathers basic information about the family in the initial interview. She also determines whether the parents wish to accept the programme. This is then followed by:

- Weekly home visits by the home visitor allotted for a particular area or locality.
- Giving weekly training goals set individually for each parent and child.
- Demonstrating the target skills to the principal care of the child, mostly the mother.
- Training by the 'Principal' carer during the course of the week.
- Assessing the skill by the home visitor the following week.
- Modification of the skill if need be, In case of any difficulty, or else teaching new skills sequentially.
- Recording each of the home-visits made by the home visitors during the week.
- Weekly supervision and reporting of the cases by the home visitors to their respective supervisors.

Whenever babies do not respond to the training programme, they are brought to the center for examination. If on examination, the baby shows physical or neurological problems, then proper referral or treatment is undertaken, but these infants also continue in the programme. On referral, the Supervisor of the early intervention programme meets the mothers of the referred infants to ascertain their willingness to participate in the programme. The mothers' cooperation is crucial to the success of any early intervention programme, for she in turn influences the family's involvement.

1.5 Intervention Techniques

1.5.1 Steps of Early Intervention

CASE HISTORY

After completion of the registration, formalities and recording of demographic details of the clients, they are sent for the early intervention services. To begin with, the case history of the client is recorded by the professional concerned.

The case history format consists of details regarding the chief complaints, prenatal, natal, neonatal, postnatal history, family history, immunization history and feeding history, developmental history and behavior problems. The chief complaints that are reported by the parents are recorded verbatim.

This provides information about the child's developmental status as perceived by the parents and is significant for planning the right intervention. Information on prenatal / natal/neonatal and postnatal aspects will help to identify the probable risk and etiological factors. The immunization, feeding and family history of the child is taken to rule out any of the environmental and biological risk factors.

ASSESSMENT

The assessment forms an integral part of the intervention process, as it is a resource guide for devising the intervention strategies that are sensitive to the needs of the individual child. It is within this perspective that the developmental assessment gives the respective team members a comprehensive view about the child's all-round developmental areas where the child is delayed in development.

The general examination and the systemic examination will enable the pediatrician to understand the health as well as the neurological status of the child. The information gathered can assist in knowing the cause, site of lesion, and effect of the pathology on the child, maturational status, and degree of deviation from normal, associated conditions and to a certain extent the prognosis. Its major contribution will be for intervention planning, strategies to be opted, frequency of visits, areas to be targeted, investigations to be ordered and referrals if any required and treatment of medical conditions. The

motor and sensory development of the child is well comprehended with Physiotherapy and Occupational therapy assessments.

The assessment primarily consists of gathering information on reflex maturation, tone, voluntary control, muscle power, involuntary movement, gross motor, fine motor, oro-motor functions, sensory integration components, play and self-care skills.

Other significant aspects of assessment includes speech, language and audiology assessment. The speech and language abilities of the child are recorded along with other or motor abilities that set limits to acquisition of language abilities.

The family assessment comprises assessing the family support, family resources and family functioning. These aspects are essential for providing intervention that is context-specific. Assessment of behavior helps to understand the evolution of behavior problems if any that may be manifested due to any deficits in child's development.

INTERVENTIONS

The intervention strategies are devised in accordance with the assessment conducted by the multidisciplinary team. The Individualized Early Intervention Plan (IEIP) devised by the team focuses on using the assessment data for helping the child to overcome the deficits and mitigating the effects of risk factors through environmental stimulation through the transdisciplinary approach.

Intervention related to medical aspects primarily aims at the use of medication for problems like epilepsy, hyperactivity, spasticity, general health problems and related concerns. It also focuses on nutrition, health, hygiene and immunization.

Genetic counselling is given wherever it is deemed necessary, and anticipatory guidance on various health issues is also provided. Prior to intervention, the parents/caregivers are given information regarding the status of the child with reference to development, maturation, problems present, their effect and the requirement of the child.

Provisional diagnosis is made and management strategies are explained. The role of parents and family in intervention is explained. The steps that are essential for successful program outcome are described. The limitations of predictive prognosis are briefed. Parent's general queries are answered. Information and guidance are given on request.

Interventions pertaining to child's development focus on fostering social, emotional and cognitive processing. The stimulation that helps to enhance these processes form an integral aspect of child development. The behavior of the child is also studied for understanding the evolution of behavioral problems that may arise due to deficits in neurological and environmental dysfunction. This kind of ecobehavioural analysis is essential for planning an appropriate behavioral management program.

The importance of interactions for facilitating speech and language development is an essential component of speech therapy. It also includes identifying and facilitating the specific speech and language deficits in children.

Auditory training for children with hearing impairment is also provided. Auditory training includes, awareness, detection and discrimination (Gross and Fine discrimination). Auditory training is given in order to make the child aware of all the environmental and speech sounds which help in the development of speech and language.

Home training programs are also provided. Here, the guidelines are given to the parents to incorporate these home-based activities every day. Physiotherapy interventions foster motor development in the child using Neurodevelopmental techniques. The emphasis of thistechnique is on facilitating movement under a normal postural tone. Sensory Integration Therapy is provided for children with sensory problems, which are manifested due to early insult to the developing brain. Training in Activities of Daily Living caters to those aspects like feeding, bathing and dressing. These self-care skills are important to maximize the functioning and minimize the dependency.

Occupational therapy enables a child to develop gross motor,fine motor and self-help skills using activity as a medium for fostering movement.Sensory Integration is useful in treating specific Learning disabilities, Emotional and Behavioral disorders, Attention deficit disorder, Speech and language disorder, Infants at risk, Autism and Hyperactivity. Specific interventions like behaviour management and anticipatory guidance are also being provided.

Family intervention is targeted for improving the care giving environment. Potential stressors like lack of motivation in mother, time management strategies and referrals for further assistance are the likely interventions. All the above interventions are in accordance with the parent consultation model where the parent is advised, guided and

given practical demonstration about the intervention which can be carried out at home.

They are given guidelines on observations and recording methods and therefore require the cooperation of family members. Information and guidance of all the above interventions is an added attribute.

Follow-up services

Follow-up services include evaluation on the progress of the child, information as recorded by the parents. Once the earlier set goals are achieved, necessary plans for further course of intervention are made. These activities are practically demonstrated to parents to follow-up at home.

Regular follow up services are provided depending upon the need. The follow ups may be daily, weekly or fortnightly. However, for outstation cases efforts are made to identify local agencies giving early intervention and the cases are referred to them. The parents are advised on follow-up as per the requirement and convenience.

Referrals

Suitable specialists are of vital importance for providing interventions. Referrals to specialists for opinion and advice and investigations help in understanding and confirming the diagnosis, thereby assisting in planning appropriate individualized intervention. For some children with locomotor impairments, aids and appliances are recommended to correct and prevent the setting of deformities.

Other referrals for family-related aspects are made when there are family problems like marital discord, alcoholism, financial crisis or mental illness in the family.

1.5.2 Early Intervention Service Approaches

The growing acceptance and implementation of the team approach also reflect early intervention professionals' view of human development that regards a child as an integrated and an interactive whole, rather than as a collection of separate parts (Golin & Ducanis, 1981). The team approach also recognizes that the multifaceted problems of very young children are too complex to be addressed by a single discipline (Holm & McCartin, 1978). The complexity of developmental problems in early life (Fewell, 1983)

and the interrelated nature of an infant's developmental domains are prompting early intervention specialists to recognize the need for professionals to work together as a team.

Although different team models are in use, most are composed of professionals representing a variety of disciplines: Medicine, Child development; Physical, Occupational, Speech and Language therapy, Special education, Social work, and Psychology.The teams also involve the family in varying ways and degrees. Team members share common tasks including the assessment of a child's developmental status and implementation of a program plan to meet the assessed needs of the child within the context of the family.

What may best distinguish early intervention teams from one another is neither composition nor task, but rather the structure for interaction among team members. Three service delivery models that structure interaction among team members have been identified and differentiated in the literature: multidisciplinary, interdisciplinary, and transdisciplinary (Fewell, 1983; Linder, 1983; Peterson, 1987; United Cerebral Palsy National Collaborative Infant Project, 1976).

A. The Multidisciplinary Approach

The approach to early intervention now is multidisciplinary where each professional individually provides services to the child. In multidisciplinary teams, professionals from several disciplines work independently of each other (Fewell, 1983). Peterson (1987) compared the mode of interaction among members of multidisciplinary teams to parallel play in young children: "side by side, but separate". (Although multidisciplinary team members may work together and share the same space and tools, they usually function quite separately.

Interaction among team members in the multidisciplinary approach does not foster services that reflect the view of the child as an integrated and interactive whole (Linder, 1983). This can lead to fragmented services for children and confusing or conflicting reports to parents.

Another concern about the multidisciplinary model is the lack of communication between team members that places the burden of coordination and case management on the

family. In contrast, both the interdisciplinary and transdisciplinary approaches avoid the pitfalls of multidisciplinary service fragmentation by having the team develop a case management plan that coordinates both their services and the information that is presented to the family.

B. The Interdisciplinary Approach

Interdisciplinary approach defines a process where professionals from different but related disciplines work together to assess and manage problems by actively participating in mutual decision making. Team members share information with one another but independently implement their section of the plan.

Interdisciplinary teams are composed of parents and professionals from several disciplines. The difference between multidisciplinary and interdisciplinary teams lies in the interaction among team members. Interdisciplinary teams are characterized by formal channels of communication that encourage team members to share their information and discuss individual results (Fewell, 1983; Peterson, 1987). Regular meetings are usually scheduled to discuss the shared cases.

Representatives of various professional disciplines separately assess children and families, but the team does come together at some point to discuss the results of their individual assessment and to develop plans for intervention. Generally, each specialist is responsible for the part of the service plan related to his or her professional discipline.

Although this approach solves some of the problems associated with the multidisciplinary teams, communication and interaction problems (e.g., influence of “professional turf”) may impinge upon the team process.

C. The Transdisciplinary Approach

In the transdisciplinary approach, each professional provides a management plan to the case manager in consultation with the other team members. One of the members may be elected as a case manager who will deal with the child. The case manager may be a rehabilitation worker. This approach is holistic in nature and provides better case management and resource management (time & money). This approach provides services

to a grater number of children with less number of professionals and facilitates easy access to the community.

Features of the Transdisciplinary Approach:

- It has a Holistic approach
- There is better case management
- There is better resource management (Time, Money)
- Greater Coverage of Services is ensured
- Less number of professionals required.
- It is a CBR approach

Early intervention being at the rudimentary stage in our country, there is an urgent need for intervention in the rural areas. The few available services in the urban areas hardly percolate to the rural population.

Transdisciplinary teams are also composed of parents and professionals from several disciplines. The transdisciplinary approach attempts to overcome the limitations of individual disciplines in order to form a team that crosses and recrosses disciplinary boundaries and thereby maximizes communication, interaction and cooperation among the team members.

Fundamental to the Transdisciplinary Model are two beliefs:

- Children's development must be viewed as integrated and interactive, and
- Children must be served within the context of the family.

Since families have the greatest influence on their child's development, they are seen as a very critical part of the transdisciplinary team and are involved in setting goals and making programmable decisions for themselves and their children. All decisions in the areas of assessment and program planning, implementation and evaluation are made with the consensus of the team. Although all team members share responsibility for the development of the service plan, it is carried out by the family and one of the team members, who is designated, acts as the primary service provider.

Another characteristic of a transdisciplinary team is that the team members accept and accentuate each other's knowledge and strengths to benefit the team, the child, and the family (Lyon & Lyon, 1980). Staff development in the form of mutual training may occur at three increasing levels of complexity: (1) sharing of general information; (2) teaching others to make specific judgments; and (3) teaching others to perform specific actions. The first two levels pertain to the sharing of information while the third level pertains to the sharing of roles.

Implications of the trans-disciplinary model

Because the transdisciplinary team members are interdependent, all must commit themselves to assist and support one another. This commitment is demonstrated by the following behaviors:

1) Giving the time and energy necessary to teach, learn, and work across traditional disciplinary boundaries.
2) Working towards making all decisions about the child and family by team consensus—that is, giving up disciplinary control.
3) Supporting the family and one other team member as the child's primary service provider.
4) Recognizing the family as the most important influence in the child's life and including the family members as equal team members who have a role to play in their child's development program

1.5.3 Personnel and Their Role in Early Intervention

PEDIATRICIAN

i. Assessment	• Growth and development • Nutrition • Detailed systematic and neurological examination Investigation • Diagnosis

ii. Intervention	• Nutrition Care Plan • Comprehensive Healthcare services • Genetic Counselling • Treatment of Medical illness and associated abnormalities • Anticipatory Guidance • Referral
iii. Teamwork	• Share Information • Assist Other Team Members • Health Education–Prevention, • Early Identification • Family Support • Parent training programmes
Psychologist	
i. Assessment	• Psychological development of the child • Behavioral characteristics/needs of the child and family
ii. Intervention	• Psychological Counselling • Family Counselling • Behaviour Modification Referral
iii. Teamwork	Referral Awareness Programmes Parent Training programme

	Master trainers programme Case Management Interdisciplinary Planning
Physiotherapist	
1. Assessment	• Motor Skills / development • Motor Dysfunction • Neuromotor • Musculoskeletal
ii. Intervention	• Design Adaptive Equipment and mobility devices • Motor Intervention • Gait Training • Specific Therapies
iii. Teamwork	• Interdisciplinary Planning • Referral • Awareness programes • Parent training programmes • Master training programmes • Case Management
Occupational Therapist	
i. Assessment	• Functional performance • Sensory processing • Adaptive responses

ii. Intervention	• Environmental modification • Design assistive/orthotic devices • Functional skill development
iii. Teamwork	• Referral • Awareness programmes • Parent training programmes • Master trainers programme • Inter Disciplinary Planning • Case Management
SPEECH THERAPIST AND AUDIOLOGIST	
i. Assessment	• Communication/Comprehension • Expression/Auditory function • Oral-Pharyngeal disorders/dysfunction.
ii. Intervention	• Thrapeutic Program • Parent guidance • Auditory training/Speech training • Referral
iii. Teamwork	• Interdisciplinary planning

CHILD DEVELOPMENT EXPERT	
i. Assessment	• Cognitive Development • Needs and Resources of the child • Child Behaviour • Learning • Mental Health
ii. Intervention	• Play and Socialization • Nutritional Plan • Counselling parents to enhance overall child development • Home organization • Behaviour modification
iii. Community and Teamwork	• Creating Awareness on child development • Assisting other Team members • Parent training programmes • Master trainers programme • Providing Information
i. Assessment	• **Social Worker** • Family needs/resources/support • Family functioning style • Community Resources • Family conflicts
ii. Intervention	• Individual counselling

	• Group counselling • Environment modification • Marital Counselling • Family Counselling • Family support • Utilization of services
iii. Teamwork	• Tap community resources • Health education • Environmental sanitation • Research • Referral
Psychiatrist i. Assessment	• Childhood disorders • Attachment problems/anxiety • Parental psychiatric problems
ii. Intervention	• Prevention of disorders • Educating and counseling parents
iii. Teamwork	• Referral • Interdisciplinary planning

1.6 Record Maintenance and Documentation

1.6.1 Concept of Documentation

Whatever is the educational facility in which the student is being educated; appropriate documentation is of utmost importance. Right from birth history and diagnosis to disability certification, school admission, assessment, curriculum planning, implementation and evaluation, future planning, vocational training and placement leading to economic independence - all have to have records at each stage. Documentation simple means systematically storing information collected from various sources using appropriate procedures for predetermined purposes.

1.6.2 The Importance of Documentation

Children's learning is enhanced

- Children become even more curious, interested, and confident when they think about the meaning of what they have done.
- The processes of preparing and displaying examples of the children's experience and effort provides a kind of debriefing or revisiting where new understandings can be clarified, deepened, and strengthened.
- Children also learn from and are stimulated by each other's work in ways made visible through the documents displayed.
- A display documenting the work of one child or of a group often encourages other children to become involved in a new topic and to adopt a new method of doing something.

Children's ideas and work are taken seriously

- Careful and attractive displays can convey to children that their efforts, intentions, and ideas are taken seriously.
- These displays are not intended primarily to serve decorative or show-off purposes.
- An important element in the project approach is the preparation of documents for display by which one group of children can let others in the class working on other parts of the topic learn of their experience and findings.

- Documentation encourages children to approach their work responsibly, with energy and commitment, showing both delight and satisfaction in the processes and the results.

Children's learning made visible

- Documentation provides information about children's learning and progress. The focus is on how children making meaning, of how they come to understand.
- While teachers often gain important information and insight from their own first-handobservations of children, documentation of the children's work in a wide variety of mediaprovides compelling public evidence of the intellectual capability and competence ofyoung children.
- Documentation uncovers the learning process as it highlights children's theories, interests and relationships.
- Conversation or dialogue is used to present children's words as serious attempts to understand concepts and ideas.

Teachers plan and evaluate with children

- Continuous planning is based on the evaluation of work as it progresses.
- As the children undertake complex individual or small group collaborative tasks over a period of several days or weeks, the teachers examine the work each day and discuss with the children their ideas and the possibilities of new options for the following days.
- Planning decisions can be made on the basis of what individual or groups of children have found interesting, stimulating, puzzling, or challenging.
- Experiences and activities are not planned too far in advance, so that new aspects of work can emerge based on children's interests and be documented.
- Teachers reflect on the work in progress and the discussion that surrounded it, and consider possible new directions the work might take.
- When teachers and children plan together with openness to each other's ideas, the activity is likely to be undertaken with greater interest than if the child had planned alone, or the teacher had been unaware of the challenge facing the child.
- The documentation provides a kind of ongoing planning and evaluation that can be done by the team of adults who work with the children.

Teacher research and progress

- As teachers examine the children's work and prepare the documentation of it, their own understanding of children's development and insight into their learning is deepened.
- Documentation provides a basis for tweaking teaching strategies, and a source of ideas for new strategies, while deepening teachers' awareness of each child's progress.
- Using information gained through documentation, teachers are able to make informed decisions about appropriate ways to support each child's development and learning.
- Documentation explains how one activity was pivotal in understanding an issue, connecting to previous learning, or provoking a new inquiry.
- Documentation helps teachers promote a positive exchange of ideas.
- Documentation highlights the issues or problems that emerge during a study or activity.

Parents' appreciation and participation

- Documentation makes it possible for parents to become more aware of their children's experience in the school.
- Parents' comments on children's work can also contribute to the value of documentation.
- Through learning about the work in which their children are engaged, parents may be able to contribute ideas the teachers may not have thought of.
- The opportunity to examine the documentation of a project in progress can also help parents to think of ways they might contribute their time and energy in their child's classroom.
- There are many ways parents can be involved in documentation within the classroom: listening to children's intentions, helping them find the materials they need, making suggestions, helping children write their ideas, finding and reading books

1.7 Implication of Early Intervention for Preschool Inclusion

1.7.1 Definition of Early Childhood Education

Early childhood inclusion embodies the values, policies, and practices that support the right of every infant and young child and his or her family, regardless of ability, to participate in a board range of activities and contexts as full members of families, communities, and society.

(National Association for the Education of Young Children Joint position statement)

1.7.2 Rational for Inclusive Early Education

- **The Ethical Issue**

The rights of children with disabilities to as full life as possible is a major ethical force among advocates of inclusion. Dunn (1968) first brought the unfairness of segerated education for children with disabilities to the public consciousness. He asserted that special classes, for the most part, provided inadequate education. According the Derman-Sparks (1988-1989), the common goal is to gain acceptance in our educational system for children with noticeable different culture, intellectual or physical characteristics.

- **The Socialization Issue**

Including young children with disabilities in the educational mainstream implies equal social status with children who are developing normally. Separating young children with handicaps from normal experiences creates distance, misunderstanding and rejection .... Separating these youngsters from real world means there must be re-entry problems. Re-entry problems can be avoided by not removing the child from normal settings.

- Developmental Issue
- Sensitive Periods
- Teachable Moments
- When a child is highly motivated and better able to acquire a particular skills
- It occurs during the daily routine and activities
- Imitation

- **The Cost Issue**

1.7.3 Inclusive Programs for children from Birth to Age Two

- Relationships among caregivers and children
- Environment and Experiences
- accessing what is happening in the environment
- Making choices that respond to their overtures and also relfect their expressed intentions
- Engaging in experiences that evolve from simple to more complex
- Causing things to happen
- Playing alone and with peers

- **Equipment**
- Picture books
- Household items such as measuring cups and unbreakable bowls
- Vinyl-covered pillows to climb on
- Child proof mirrors
- Nesting toys
- Large beads that snap together
- Washable coIth of different colors and textures
- Dolls
- Balls
- Pull toys
- Music boxes and other musical toys
- Simple cause -effect toys
- Various types of containers etc.

Health, Safety and Nutrition

- Toys should be safe, washable, and too large for young children to swallow. Mouthed toys are replaced with clean ones so that the mouthed toys can be disinfected with a bleach solution.
- Electrical outlets are covered; extention cords are not exposed; hazardous substances are kept out of children's reach
- Personal items are labeled with the child's name.
- Diaper - changing areas are easily and routinely sanitized after each diaper change.
- Staff should be healty and take precautions not to spread illness.
- Caregivers wash their hands before and after every diaper changef and the feeding of each infant
- Adults are aware of the symptoms of common childhood illneesses, of children's allergies, and potental hazards in the evironment.
- Infants always are held with their bodies at an appropriate angle ('head above the heart') when being fed from a bottle.
- Children who can sit up are fed with one or two other infants with a caregiver present to help if needed.
- Safe finger foods are encourged. Only healthy foods are offered. Eating is considered a sociable, happy time.
- Reciprocal Relationships with Families
- Sharing important information with parents about their children
- Demonstrating respect for a family's culture, language, and life choices
- Having appropriate information that enables teachers to anser questions about child development and available community resources.
- Responding respectfully to parents questions, comments, and concerens.

1.7.4 Inclusive Programs for Children Ages three to Five

- Creating a caring community of learners
- Teaching to enhance development and learning

- Constructing an Appropriate Curriculum
- Socio-emotional development
- Communication and literacy development
- Physical Development
- Asethetic Development
- Assessing Children's learning and Development
- Reciprocal Relationships with Parents

1.7.5 Key Experiences in Pre School Curriculum

Creative Representation

- Recognizing objects by sight, sound, touch, taste, and smell
- Imitating actions and sounds
- Relating models, pictures, and photographs to real places and things
- Pretending and role playing
- " Making models out of clay, blocks, and other materials
- Drawing and painting

Language And Literacy

- Talking with others about personally meaningful experiences
- Describing objects, events, and relations
- Having fun with language: listening to stories and poems, making up stories and rhymes
- Writing in various ways: drawing, scribbling, letter like forms, invented spelling, and conventional forms
- Reading in various ways: reading storybooks, signs and symbols, one's own writing
- Dictating stories

Initiative and Social Relations

- Making and expressing choices, plans, and decisions
- Solving problems encountered in play
- Taking care of one's own needs
- Expressing feelings in words
- Participating in group routines
- Being sensitive to the feelings, interests, and needs of others
- Building relationships with children and adults
- Creating and experiencing collaborative play
- Dealing with social conflict

Classification

- Exploring and describing similarities, differences, and the attributes of things
- Distinguishing and describing shapes
- Sorting and matching
- Using and describing something in several ways
- Holding more than one attribute in mind at a time
- Distinguishing between some and all
- Describing characteristics that something does not possess or what class it does not belong to
- **Seriation**
- Comparing attributes (longer/shorter, bigger/smaller)
- Arranging several things one after another in a series or pattern and describing the relationships
- (big/bigger/biggest, red/blue/red/blue)
- Fitting one ordered set of objects to another through trial and error (small cup-small saucer/medium cup-

- medium saucer/big cup-big saucer)
- NUMBER
- Comparing the numbers of things in two sets to determine more,fewer, same number
- Arranging two sets of objects in one-to-one correspondence
- Counting objects
- **Space**
- Filling and emptying
- Fitting things together and taking them apart
- Changing the shape and arrangement of objects (wrapping, twisting, stretching, stacking, enclosing)
- Observing people, places, and things from different spatial viewpoints
- Experiencing and describing positions, directions, and distances in the play space, building, and neighborhood
- Interpreting spatial relations in drawings, pictures, and photographs
- **Time**
- Starting and stopping an action on signal
- Experiencing and describing rates of movement
- Experiencing and comparing time intervals
- Anticipating, remembering, and describing sequences of events

Source: Reprinted by permission from Nancy Altman Brickman, ed., "Key Experiences in the Preschool Classroom," *Supporting Young*

1.8 Lets Us Sum up

- Early intervention is the first intervention strategy in the process of rehabilitation.
- The term Early Intervention refers to services given to very young children with

special needs, generally from birth to until the child turns five. For this reason, these programs are sometimes called "Birth to 5" or "Zero to 5".

- Early intervention may focus on the child alone or on the child and the family together.
- The principles of early intervention is to provide appropriate therapies for children with disabilities, to minimize these delays and maximize their chances of reaching normal milestones in development. Early intervention of children at risk is the most important and vital component in Rehabilitation of Persons with all disabilities recognized by WHO and all developed countries of the world. The UNCRPD stresses the importance of habilitation and rehabilitation beginning at the earliest possible stage and being based on individual needs and strengths. Early identification, availability of services, trained professionals and information and support to families are all considerations of quality early intervention services.
- EI programs may be centre - based, home based, hospital based or a combination. Each model has its advantages and limitation.
- In the home based model the trainer visits the house of the child with disability or developmental delay. The trainer interacts with the family members, observes their routine, practices, culture and social activities, available resources in terms of family members, finances, material resources and so on.
- A centre-based approach provides varied types of help at a central location. This is a system where the parents or care givers ofthe child take the child to a centre. At the centre, a group of experts, including a doctor, social worker, special educator and therapists for speech and motor aspects, attend to the child and train the parents/ caregiver to carry out tasks at home to foster the development of the child.
- The mixed intervention is simple a combination of home-based and centre based intervention strategies. Under this model, the parent and the child receive a combination of services.

Children are the future citizens of the country. If the future citizens, the torch bearers of the country are grappling with such problems of disability and survival, then the future of the country is to say the least, grim. Disability in any form hampers normal development of children, and the challenge posed by disability in India is enormous. Despite the fact that so much has been done, there is still a much more to be done. The

crucial issues are to make services accessible, to involve parents and provide services to facilitate maximum development where children with disabilities reach their full potential. Governmental efforts, especially Ministry of Health should collect comprehensive date on children with disability and 5 year targets should be set for enrollment of children with disability and closely monitory action plans implemented. There is a need to establish adequate early detection and identification services in hospitals, PHC's community based health care services with referrals system to Early Intervention service. Routine screening for high risk pregnancies and babies will help in early detection of disabilities. All the above efforts must culminate to make our former President Dr. A.P.J. Abdul Kalam's dream project PURA (Provision of Urban Amenities in Rural Areas) a possibility. So the adage **"Catch them young and watch them grow"** best defines Early Intervention.

Documentation is a vital process in any programme. It makes the programme more system dependent than a person dependent. Educators employ various methods for documenting evaluation data. They are IEP form, activity checklists, task analysis checklist, graphs, work samples and anecdotal records.

- Early childhood inclusion embodies the values, policies, and practices that support the right of every infant and young child and his or her family, regardless of ability, to participate in a board range of activities and contexts as full members of families, communities, and society.
- The reasons for inclusion are based on ethical, social, developmental and philosophical arguments. There are many benefits to participating in an inclusive early childhood program for children with developmental problems, including opportunities to interact with and imitate children who have acquired a higher level of language, play and social skills.
- For programs to be truly developmentally appropriate, the educators must think about children as individuals and design programs that meet the needs of individual children.
- Quality programs for infants and toddlers provide a safe, healthy, well-supervised environment filled with developmentally appropriate play materials and staffed by responsive caregivers,

- For children from three to five years of age, a quality program provides many opportunities to learn by doing. Children acquire knowledge of the world through play. Child -directed and teacher -supported active learning is the key to quality program for children this age.

1.9 Check Your Progress

1. What do you understand by early intervention?
2. Explain the purposes of early intervention.
3. Write the scope of early intervention for children with disabilities
4. Explain the advantages and disadvantages of Home Base Intervention
5. Explain which model would be suitable for your locality
6. What are the stages of early Intervention Techniques?
7. Write in details the various approaches of early intervention?
8. Write the role of professional involved in team of early intervention
9. What is documentation? Discuss the importance of documentation.
10. Explain the concept of inclusive education
11. Write the roles of educator in promoting inclusive education for the preschoolers
12. Key curriculum for preschoolers in promoting inclusive education

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Unit - 5 ❐ Therapeutic Intervention

Structure

5.1 Introduction

Treatment of developmental disabilities can come in a variety of different forms. The best treatment regimens are the result of an individualized treatment plan formed by a team of health care multidisciplinary professionals. The plan will be based on the severity of the disability and should involve patients, families, teachers, and caregivers in all phases of planning, decision making, and treatment. The individualized treatment plan will take into consideration both the immediate needs of the patient, and the long term prognosis for development.

Occupational therapy, or OT for short, is a treatment therapy that helps people achieves independence in all facets of their lives. If a child has physical disabilities or developmental delays, occupational therapy can improve their cognitive (thinking), physical and major skills as well as address psychological, social, and environmental factors that impact the child's functioning.

Physical therapy (PT), or sometimes called physiotherapy, focuses on improving gross and fine motor skills, balance and coordination, and strength and endurance. The child may be evaluated by a physical therapist to assess muscle and joint function, mobility, strength and endurance, oral motor skills such as feeding and talking, posture and balance, even the status of the heart and lungs.

Speech therapy is a clinical program aimed at improving speech and language skills and oral motor abilities. This means talking, using sign language, or using a communication aid. Children who are able to talk may work on making their speech clearer, or on building their language skills by learning new words, learning to speak in sentences, or improving their listening skills.

Dance and creative movement provide physical challenges in a structured, supportive environment for sensory integration. The intimate connection with music often makes dance feci less like exercise or physical therapy and more like leisure. Dance/Movement Therapy (DMT) has been used in the United States since World War II. Marian Chace, a dancer, choreographer, and teacher of modern dance in Washington D.C. during the 1930s and 1940s, first developed the mind body connection as a form of therapy for her dance students. She "questioned why pupils who had no intention of being professional came to take dance classes" and started gearing her classes toward the needs and interests of recreational dancers.

In 1942, she was asked to work with returning soldiers from World War II at St. Elizabeth's Hospital in Washington D.C. Dance/movement therapy was seen as promising because it could so easily be a group treatment. Chace developed her methods working with institutionalized, often schizophrenic and psychotic, individuals.

Music therapy enhances one's quality of life, involving relationships between a qualified music therapist and individual; between one individual and another; between the individual and his/her family; and between the music and the participants. These relationships are structured and adapted through the elements of music to create a positive environment and set the occasion for successful growth.

Music Therapy is a well-established, research-based profession In which music is used to accomplish therapeutic and educational goals. Recreational therapy is based on the idea of increasing a person's independence and ability to function through participation in creative arts, dance, sports, adventure programs and puzzles or logic games. It is a holistic approach to wellness.

According to the American Therapeutic Recreation Association, recreational therapy "aims to improve an individual's functioning and keep them as active, healthy and independent as possible in their chosen life pursuits." In most cases, these goals are accomplished by combining a person's speech, fine motor or gross motor goals with community involvement, while engaging in the person's preferred interests.

5.2 Objectives

After going through this unit you will be able to

- Define the different therapies like occupational, physio, speech, yoga and play, music, dance and movement.
- Discuss the aims and objectives of the different therapies.
- Narrate the scope and modal ities of the therapies.
- Describe the intervention procedures of the therapies.

5.3 Occupational Therapy: Definition, Objectives, Scope, Modalities And Intervention.

5.3.1 Definition of Occupational Therapy

Occupational therapy is a method of treatment for which the primary area of concern is the patient's ability to perform functions required in day to day life. This method of treatment is also concerned with the social, psychological and cognitive development of the patient.

In the early years, occupational therapy was regarded as a means to keep long term convalescent patients occupied. It derived the name "Occupational therapy" owing to this. Its contribution was limited to the field of chronic illness - metal illness, tuberculosis, leprosy etc. Occupational therapy is a client-centred health profession concerned with

promoting health and well being through occupation. The primary goal of occupational therapy is to enable people to participate in the activities of everyday life. Occupational therapists achieve this outcome by working with people and communities to enhance their ability to engage in the occupations they want to, need to, or are expected to do, or by modifying the occupation or the environment to better support their occupational engagement. (WFOT 2012)

"Occupational therapy is the art and science of directing man's participation in selected tasks to restore, reinforce and enhance the performance, facilitate learning of those skills and functions essential for adaptation and productivity, to diminish or correct pathology and to promote and maintain health." (Council of Standards, American Occupational Therapy Association, 1972)

5.3.2 Aims of Occupational Therapy

A person with intellectual disability is observed to have dysfunction in almost all performance components. The specific aims of occupational therapy for persons with intellectual disability are as follows.

(a) To facilitate the development of performance components of the patients.

(b) To enhance independence of the patients.

(c) To provide sensory stimulation.

(d) To improve hand functions.

(e) To enhance gross motor functions.

(f) To facilitate development of perceptual motor functions.

(g) To reinforce social development.

(h) To enhance independence skills.

(i) To provide vocational training.

(j) To correct mal adaptive behaviour.

(k) To provide extrinsic adaptations.

5.3.3 Objectives of Occupational Therapy

Occupational Therapists work with children who have difficulties with the practical and social skills necessary for their everyday life. An Occupational Therapist will aim to enable the child to be as physically, psychologically and socially independent as possible. Occupational Therapists work in close partnership with the child and their family, schools and other healthcare professionals. Together they have a shared responsibility for meeting the child's needs. In schools, for example, they evaluate the child's abilities, recommend and provide therapy, modify classroom equipment, and help the child participate as fully as possible in school programs and activities. A therapist may work with the child individually, lead small groups in the classroom, consult with a teacher to improve the functioning skills of the child etc.

Occupational therapy is provided when there is a disruption In function in one or more of the following the areas:

Gross Motor Skills: Movement of the large muscles in the arms, and legs. Abilities like rolling, crawling, walking, running, jumping, hopping, skipping etc.

Fine Motor Skills: Movement and dexterity of the small muscles in the hands and fingers. Abilities like in-hand manipulation, reaching, carrying, shifting small objects etc.

Cognitive Perceptual Skills: Abilities like attention, concentration, memory, comprehending information, thinking, reasoning, problem solving, understanding concept of shape, size and colors etc.

Sensory Integration: ability to take in, sort out, and respond to the input received from the world. Sensory processing abilities like vestibular, proprioceptive, tactile, visual, auditory, gustatory and olfactory skills.

Visual Motor Skills: A child's movement based on the perception of visual information. Abilities like copying.

Motor Planning Skills: Ability to plan, implement, and sequence motor tasks.

Oral Motor Skills: Movement of muscles in the mouth, lips, tongue, and jaw, including sucking, biting, chewing, blowing and licking.

Play Skills: To develop age appropriate, purposeful play skills

Socio-emotional Skills: Ability to interact with peers and others.

Activities of daily living: Self-care skills like daily dressing, feeding, grooming and toilet tasks. Also environment manipulation like handling switches, door knobs, phones, TV remote etc.

Occupational therapists in schools collaborate with teachers, special educators, other school personnel, and parents to develop and implement individual or group programs, provide counselling, and support classroom activities.

Occupational therapists design and develop equipment or techniques for improving existing mode of functioning.

5.3.4 Scope of Occupational Therapy

Occupational Therapists work with parents/care givers and others to assess if a child has difficulties with practical and social skills. Occupational Therapists assess the physical, psychological and social functions of the individual identify areas of dysfunction and involves the individual in a structured programme of activity to overcome disability. Following assessment, the Occupational Therapist will design and implement programs with appropriate strategies in order to enable the child to maximize his/her potential.

Occupational Therapists provide services to individuals often in conjunction with physicians, social workers, psychologists, and other therapists. Occupational therapists use qualitative and quantitative assessment methods, including standardized tests, as well as devices, to analyze and diagnose the nature and extent of dysfunction. Occupational therapists develop an individualized plan of care, tailored to each patient's needs.

5.3.5 Modalities of Occupational Therapy

Occupational Therapy is a form of treatment which directs the patients to practice and master human activities. Thus human activity is indeed the foremost modality of occupational therapy. The modalities of occupational therapy are as

1. Human Activity.
2. Extrinsic adaptation: Extrinsic adaptation is a adaptation in the physical, natural or non human environment of the person. Here adaptation refers to the structural adjustment or change in factors in the environment.

3. Splints and pressure garments.
4. Therapist.
5. Environment
6. Teaching/ Learning Process.

5.3.6 The Intervention Process

Occupational therapy intervention for people with intellectual disability is an on-going process that is both gradual and dynamic. Treatment is provided throughout the life cycle in accordance with the client's changing needs, desires and preferences in all areas of occupation. The intervention often requires repeated drills and practice to achieve internalization and learning, and performance in a variety of contexts to enable generalization. As is the case with respect to assessment, the intervention is preferably carried out in the client's various daily environments. This enables and encourages the client's participation in the many contexts of his/her life. Occupational therapy interventions for people with intellectual disabilities are specifically adapted to the client with respect to the degree and type of support needed as well as the context. Interventions may include direct treatment as well as environmental adaptations, guidance, monitoring and counseling (including of the family, the educational staff, the clinical staff, employers and others).

Examples of Occupational Therapy Intervention:

Activities of daily living: including activities directed to the person's care of his/her hodily needs (ADL) such as personal hygiene, eating, dressing, and instrumental activities of daily life (lADL) such as preparing a meal or managing finances. This area represents a central focus of i rtervention in occupational therapy for this population. For example, with respect to activities related to eating, the intervention can range from adapting the feeding environment, choosing preferred food or bringing the food to one's mouth, to teaching more advanced skills such as organizing shopping, and meal preparation.

Learning/Studies: These are activities necessary to be a student and to participate in a learning environment, including academic and non-academic activities. Intervention in this area covers a variety of educational settings such as day care centers for very young children, kindergartens and special education schools (ages 3-21 years), regular school settings and professional training facilities. The intervention is varied and may focus on

gaining basic learning-skills, such as understanding cause and effect processes and object permanence, or on more complicated skills, such as preparation for learning and writing, organization in time, in space and with accessories, adaptation to different learning environments, the use of information technologies and computers and gaining learning strategies. In addition, the intervention can include adapting various learning environments.

Work: These are productive activities, whether for remuneration or not, that include preparing for work, producing a product and providing services. Intervention in this area covers a variety of work settings including: special educational settings in which students receive training to enter the work force, youth rehabilitation centers, adult sheltered-work facilities, an array of protected supportive community work systems, and placement-services for gaining open market positions. Intervention varies and may include basic work skills training (behavior norms, work routines), developing and practicing basic cognitive abilities, practicing motor skills, exposure to varied work opportunities, support and advice for developing areas of interest, identifying abilities and choosing suitable occupations, analyzing occupations and adapting them as needed, as well as supporting and assisting placement in various work sights in the community.

Play: These are activities that are generally internally motivated and provide pleasure, entertainment and learning. Play-intervention, as an occupational therapy goal in this population, is directed towards the most basic experiencing of playas a source of pleasure, as well as providing the client with an opportunity to participate in play activities. The intervention includes drills in basic skills such as the use of equipment, recognizing rules and agreed-upon behavior patterns, or choosing suitable play activities. In addition, play represents a treatment method for learning and practicing a variety of social, motor and functional skills.

Leisure: These are non-obligatory activities that are internally motivated and are performed at times that are not devoted to work, studies, self-care or sleep. Research reveals that people within this population have a relatively large amount of time to devote to leisure, whereas their participation in leisure activities is minimal (Buttimer & Teirney, 2005). Therefore, coping with leisure within this population is a central topic. Intervention in this area may focus on exposure to varied leisure opportunities, identification and choice of areas of interest, planning leisure time and participation in activities that lead to a perception of capability, pleasure, control and satisfaction.

Social participation: These are activities related to agreed-upon behavior patterns expected of an individual within a given social system (e.g. community, family or with friends). The intervention within occupational therapy encourages the person to gain skills in the various areas or occupation and thus supports and strengthens social participation. For this population, an emphasis is places upon understanding acceptable social norms and as well as learning and practicing activities that lead to satisfactory social interactions.

Accessibility and Environmental Modification: Occupational therapy practice relates to the person, the occupation and the environment. The occupational therapist's broad knowledge base in the areas of function and I imitation enables him/her to identify, through performance analysis in the different areas of occupation, environments and/or tasks that should be modified. The various limitations that characterize the population of people with intellectual disabilities require both general and client-specific environmental modifications to ensure accessibility. The characteristic difficulty in problem-solving, initiative and coping with unfamiliar situations, amplifies the need for accessibility modifications for this population. These accessibility modifications include changes in the environment (as in widening passageways, modifying playgrounds or adding symbol signs), in the equipment (such as adapting seating systems of adapting feeding aids), or or the task (such as changing the complexity of instructions or dividing a task into sub-stages).

Assistive technology is one of the methods used to adapt the environment and includes modifications of hardware; software and various combinations thereof (such as a virtual keyboard, a touch screen, a motorized wheelchair, switch systems, computer programs and internet sites, adapted content amount, or voice output devices). Thus, for example, a switch can be modified to be activated through the person's head or hand. Other modifications of the switch may include size, colour, texture, or sensitivity (such as speed or pressure response). Assistive technology promotes a variety of functions related to the individual, the occupation and the environment. In addition, it allows for the modification of an individual's environment in the manner in which his/her requires, by relating to his personal abilities, wants, areas of interest and specific limitations and difficulties.

Environmental modification is likely to significantly improve a person's ability to participate in all areas of occupation, his or her level of independence and the degree of supports required.

In summary, the occupational therapist, as part of a therapeutic, rehabilitative and educational profession playa central role within the support system available to people with intellectual and developmental disabilities, throughout the life cycle. As such, occupational therapists hold key positions as leaders in this area. Working with people with intellectual and developmental disabilities requires consideration of function, independence and participation in the various areas of occupation, which enables the occupational therapist to utilize all the areas of knowledge and expertise included in the practice of occupational therapy.

5.4 Physiotherapy: Definition, Objective, Scope, Modalities and Intervention

5.4.1 Definition of Physiotherapy

It is also called physical therapy. The treatment of physical dysfunction or injury by the use of therapeutic exercise and the application of physical modalities (like heat, light, cold, current, water, sound waves). Assistive device are also used as a part of the treatment programme. They are intended to restore or facilitate normal function or development.

5.4.2 Aims and Objectives of Physiotherapy

Physiotherapy in the field of mental retardation is aimed at improving overall motor functions of the child to the maximum extent possible, so as to make the child independent in walking and carrying out activities of daily living. If it is not possible for the person to walk, and carry out activities independently, then aids and appliances are trainings given to the person to use it.

(A) Objectives of physiotherapy in general

1. Reduces or relieves pain, muscle spasm, tenderness of muscles.
2. It helps to reduce or relieve swelling.
3. It helps to reduce or relieve inflammation (means the response of the body in the form of pain, swelling, muscle spasm and tenderness of the muscles etc. in the presence of any foreign body).
4. To improve ventilation of lungs, by giving, deep breathing exercises and postural drainage.

5. To encourage correct weight bearing and weight transference on both sides of the body.
6. Re-education of affected or paralysed muscles.
7. It is effective in healing of infected wounds.
8. It helps to check the abnormal growth of bone (bony spurs).
9. Breaking up of adhesion formation (gluing of joint structures by synovial fluid).
10. To keep the person physically fit.
11. To teach relaxation.
12. Stimulation of sensory and motor nerves if sensations are reduced or lost.
13. Post fracture and dislocation, management.

(B) Objectives of physiotherapy in relation to Intellectual Disability

1. To facilitate the development of child gross motor and fine motor.
2. To prevent or correct contractures and deformities.
3. Prevent or correct wasting and atrophy of muscle.
4. To normalize muscle tone.
5. To maintain or improve the muscle power.
6. To maintain and improve the joint range of movement.
7. To emphasize the importance of handling and positioning the child.
8. To make the child independent in walking and activities of daily living.
9. Provide aids and appliances and to train the person and parents how to use assistive devices.
10. To improve posture, gait, balance coordination.
11. Inhibition of abnormal reflex activity, abnormal patterns of movement and abnormal muscle tone and facilitation of normal in place of abnormal.
12. To keep the children physically fit.

5.4.3 Scope of Physiotherapy

Physiotherapy has scope in treating a wide range of conditions. It play an important

role in all the branches of medical sciences, especially Orthopaedics, Paediatrics, Neurology, Cardio thoracic, Surgery, Sport Medicine etc. In set ups like leprosy, paraplegic and poliomyelitis after plastic surgery, burns clinics, spinal cord injury centres and in assistive devices manufacturing units etc.

Physiotherapy has three major functions in the management of children with intellectual disability.

1. To facilitate motor development
2. To prevent and correct contractu res and deformities.
4. To make the child as independent as possible and functional (locomotor function and activities of daily living).

5.4.4 Modalities of Physiotherapy

1. Hydrotherapy:

   Hydrotherapy, or water therapy, is the use of water (hot. cold, steam, or ice) to relieve disco mfort and promote physical well-being.
2. Electrotherapy:

   Electrotherapy is the use of electrical energy as a medical treatment.
3. Exercise Therapy:

   Exercise Therapy is a regimen or plan of physical activities designed and prescribed for specific therapeutic goals.
4. Massage or Manipulation
5. Gait:

   Gait training is a type of physical therapy. It can help improve your ability to stand and walk.

5.4.5. Intervention of Physiotherapy

Role of Physiotherapist in the field of Intellectual Disability

- **Diagnostician:** Here the physiotherapists assess the client and order for the necessary investigation, on the basis of this therapist arises at diagnosis. According to the diagnosis therapy will be planned.
- **Interventionist:** Therapist plays a role as interventionist in setting intervention goals. planning and implementation of therapy programme, giving follow - up and

regular evaluation of the client, modifying programme as per the clients need.

- **Team member:** Therapist treated as a team member as the team member in multidisciplinary approach, this is the most commonly seen approach in field of mental retardation. In Trans disciplinary approach therapist playa role as a team member by gathering information and helps in planning intervention along with other experts of the team. In certain condition therapist become a case manager and given input.
- Proving Information and guidance: As the parents need information guidance regarding the condition of the child and therapy, the therapist gives proper information to parents and also to other professional whenever needed.
- Counsellor: Physiotherapist plays a counsellor role in the field of mental retardation. Parent counselling is in important aspect, which should be included in intervention programme. The parents of the clients may not be aware of the condition of child and the facilities available for their child. They will come to you in a state of confusion and anxiety to know what happening with their child.

Before as part of planning and intervention programme therapist should give proper information to the parents regarding the following things:

- Condition of the child.
- Child's needs and abilities.
- How the therapy is going to help the child in improving his functional abilities.
- Proper instructions given to the parents.
- Training is given to the parents how to give therapy at home.
- What are the facilities and services available for the persons with intellectual disability.
- **Trainer:** Therapist plays a role of trainer, as the therapist will train the parents how to give therapy at home and conducts classes and workshops for parents and other professional, to make them aware of disability and affects of intervention on the clients.
- **Researcher:** Research is an important aspect in the field of intellectual disability. Therapist also plays a role as a researcher by doing research on different aspects

and population study. To innovate new techniques and equipment for making the intervention better and to get better out come results.

- Leader**:** Therapist plays a role of leader of the team voicing on behalf of the client and by giving guidelines to the former self-help groups by the parents.
- **As an administrative officer:** Therapist plays a role of administrative officer by heading and organization and establishing a institution or center to serve the people better.
- **Provider of referral:** Therapist will give referrals to the concern professionals to obtain information of the clients and to related services outside the institute for investigations or for expert opinion.

5.5 Speech Therapy: Definition, Objectives, Scope, Types of Speech, Hearing and Language Disorders and Intervention

5.5.1 Definition of Speech and Language Therapy:

Speech and language therapy provides treatment, support and care for children and adults who have difficulties with communication, or with eating, drinking and swallowing.

Speech and language therapists (SL Ts) are allied health professionals. They work with parents, carers and other professionals, such as teachers, occupational therapists and doctors.

5.5.2 Objectives of Speech Therapy

A speech pathologist's narrow, well-defined objectives work toward achieving broad therapeutic goals. This professional develops an individualized treatment plan for each patient, which often includes time-based objectives. For example, his objectives may include helping a patient correctly say several new sounds by the end of a quarter, marking period or year. Other objectives can include helping a patient to understand and to explain a speaker's gestures, demonstrate newly learned conversation strategies, explain the perception of body language, speak for a period of time without stuttering and improve reading comprehension to a specific level.

A speech language pathologist sets broad but specific goals for each of his patients. Specific goals can include helping patients develop clearer speech, learn to use alternate

methods of communication, develop better reading and writing skills, and strengthen throat and neck muscles.

Goals also may include coordinating treatment programs with other professionals or referring patients for other treatments. For example, a patient with a swallowing disorder may benefit from the collaborative care of a speech language pathologist and a medical doctor.

5.5.3 Scope of Speech therapy

Speech Therapy is an Allied Health Science subject. Medical advancement in this field, awareness of the need for early intervention etc has increased the scope of Speech Therapy. A number of Speech Therapy courses are available now in India and abroad.

Speech Therapy has its necessity in teaching and training children with intellectual disability.

5.5.4 Types of Speech, Language and Hearing Disorders

The most intensive period of speech and language development is during the three of life a period when the brain is developing and maturing. There skills appear to develop best in a world that is rich with sounds, sights, and consistent exposure to the speech and language of others.

At the root of this development is the desire to communicate or interact with the world.

The beginning sign of communication occur in the first few days of life where in infant learns that a cry will bring food, comfort, and companionship. Research has shown that by 6 months of age, most children recognize the basic sounds of their native language.

5.5.4 (a) Speech and Language Disorders

A speech disorder refers to a problem with the actual production of sounds. A language disorder refers to a problem understanding or putting words together to communicate ideas.

Speech disorders include:

1. Articulation disorders: difficulties producing sounds in syllables or saying words incorrectly to the point that listeners can't understand what's being said.
3. Fluency disorders: problems such as stuttering, in which the flow of speech is

interrupted by abnormal stoppages, partial-word repetitions ("b-b-boy"), or prolonging sounds and syllables (sssssnake).

4. Resonance or voice disorders: problems with the pitch, volume, or quality of the voice that distract listeners from what's being said. These types of disorders may also cause pain or discomfort for a child when speaking.

Language disorders can be either receptive or expressive:

1. Receptive disorders: difficulties understanding or processing language.
2. Expressive disorders: difficulty putting words together, limited vocabulary, or inability to use language in a socially appropriate way.
3. Cognitive-communication disorders: difficulty with communication skills that involve memory, attention, perception, organization, regulation, and problem solving.

5.5.4 (b) Hearing disorders

There are four types of hearing loss:

- Auditory Processing Disorders
- Conductive
- Sensorineural
- Mixed.
- **Auditory Processing Disorders**

Auditory Processing Disorders occur when the brain has problems processing the information contained in sound, such as understanding speech and working out where sounds are coming from.

- **Conductive Hearing Loss**

Conductive Hearing Loss occurs when there is a problem with the Outer or Middle Ear which interferes with the passing sound to the Inner Ear. It can be caused by such things as too much earwax, Ear Infections, a punctured eardrum, a fluid build-up, or abnormal bone growth in the Middle Ear such as Otosclerosis. It is more common in children and indigenous populations.

Surgery and some types of hearing technologies can be used to treat Conductive Hearing

Loss such as Bone Conduction Hearing Aids, Bone Anchored Hearing Devices and Middle Ear Implants.

- **Sensorineural Hearing Loss**

Sensorineural Hearing Loss occurs when the hearing organ, the Cochlea, and/or the auditory nerve is damaged or malfunctions so it is unable to accurately send the electrical information to the brain. Sensorineural Hearing Loss is almost always permanent.

It can be genetic or caused by the natural aging process, diseases, accidents or exposure to loud noises such as Noise-induced Hearing Loss and certain kinds of chemicals and medications. Auditory Neuropathy is another form where the nerves that carry sound information to the brain are damaged or malfunction.

Technologies such as Hearing Aids, Cochlear Implants and Hybrid Cochlear Implants can help reduce the effects of having Sensorineural Hearing Loss.

- **Mixed Hearing Loss**

A Mixed Hearing Loss occurs when both Conductive Hearing Loss and Sensorineural Hearing Loss are present. The sensorineural component is permanent, while the conductive component can either be permanent or temporary. For example, a Mixed Hearing Loss can occur when a person with Presbycusis also has an Ear Infection.

5.5.5 Speech and Language Intervention

In speech-language therapy, a speech language pathologist will work with a child one-to-one, in a small group, or directly in a classroom to overcome difficulties involved with a specific disorder.

Therapists use a variety of strategies, including:

- **Language intervention activities:** The SLP will interact with a child by playing and talking, using pictures, books, objects, or ongoing events to stimulate language development. The therapist may also model correct vocabulary and grammar and use repetition exercises to build language skills.
- **Articulation therapy:** Articulation, or sound production, exercises involve having the therapist model correct sounds and syllables in words and sentences for a child, often during play activities. The level of play is age-appropriate and related to the child's specific needs. The SLP will physically show the child how to make certain

sounds, such as the "r" sound, and may demonstrate how to move the tongue to produce specific sounds.

- **Oral-motor/feeding and swallowing therapy:** The SLP may use a variety of oral exercises -including facial massage and various tongue, lip, and jaw exercises - to strengthen the muscles of the mouth for eating, drinking, and swallowing. The SLP may also introduce different food textures and temperatures to increase a child's oral awareness during eating and swallowing. General guidelines for interventions
- Selection of Specific goals
- Organizing all the gathered information
- Structure the environment
- Selection 0 f relevant materials
- Transformation and adaptation of the material
- Use of object from the environment
- Maintenance of schedule Principles for therapy
- Highlighting new or relevant information
- Pre-organized information
- Trained rehearsal strategies
- Using over learning & repetition
- Training in natural environment
- Early Intervention
- Following proper schedule

5.6 Yoga and Play Therapy: Definition, Objectives, Scope and Intervention

5.6.1 Meaning and Definition of Yoga

The word yoga comes from the Sanskrit root ' Yug' meaning to join on yoke, implying the integration (on joining) of every aspect of human being from the inner most to the external. Yoga is practical philosophy that aims at uniting the body, mind, and spirit for

health and fulfilment.The father of modern yogashashtra Patanjali Maharshi defines yoga as 'Yogaschitta Vrutti Nirodhaha' that is yoga is controlling the nature of the mind.

The ultimate aim of this philosophy is to strike a balance between mind and body and attain self- enlightenment. To achieve this, yoga uses movement, breath, posture, relaxation and meditation in order to establish a healthy, lively and balanced approach to life. Though the exact origins of Yoga are unknown but Yoga is considered to be the oldest physical discipline in existence. Yoga, thus symbolizes balance in every area of life. Yoga is one of the six schools of ancient Indian Philosophy. It is the practice that enables one to achieve higher levels of performance, bringing out the hidden potentials from within. Systematic Yoga practice will increase the physiological and psychological well being.

5.6.2 Objectives of Yoga

- Yoga practice reduces tension, stress, anxiety, weakness, helplessness, fear, negative thoughts etc. Which are increasing day by day in this mechanical human life.
- It treats the prolonged diseases or deficiencies like diabetes, asthma. heart problems, pains, sprains, indigestion etc. and makes the body active and good looking.
- Yoga practice equips the practitioners with devotion, attention, and concentration and alertness in every activity that he does. He also discharges his responsibilities with dedication thereby get respect and honor at his work.
- Man can prove his life worth living by developing his self physically and psychologically that contribute for the development of spiritual instinct in him.
- As soon as one is habituated for yoga practice, there would be number of changes in his routine activities, habits, thoughts, food habits, behaviors etc.
- Improvement in balance is one of the major benefits of Yoga. Improved balance is referred not only to the sharp physical coordination but also to the balance between the left and right, front and back and high and low aspects of one's body.
- Along with a host of benefits, Yoga also helps in developing and attaining personal values. Yoga erases a variety of ills in human beings. These may range from feel ings of frustration, persecution and insecurity. Yoga greatly hel ps in the development of personal values. Personal values are those values which an individual develops and lives by all through his life.

- Yoga and social values are closely related to each other. Social values are a set of philosophy that an individual carries for all his life. Yoga possesses great power to inculcate those values that go a long way in making a man complete.
- Yoga helps an individual not only to realize his own self but also understand other issues around him/her. Yogic theory and practice lead to increased self-knowledge. Yogic practices like breathing and posture exercises help in attaining and maintaining health, physical and mental, and relaxation. The knowledge gained through Yoga is not simply that of the practical kind relating to techniques, but of a spiritual sort pertaining to grasping something about the nature self and other matters.

5.6.3 Scope of Yoga Therapy

Yoga is certainly more than mastering its postures and asanas and increasing the strength and flexibility of body. It indicates towards healing of mind and body and attaining the state of self- enlightenment. It is said that in early periods when Yoga was just introduced, the main purpose was to heal community members and the practitioners act as religious mediators. Needless to say, practicing of Yoga includes the traditional aspects too such as practicing different poses, chanting of mantra, observing breathing habit and controlling thoughts coming to mind with the help of meditation. Today, it has been practiced for fitness, healthy body and mind, strength, flexibility, emotional well-being and much more. The main purpose of practicing Yoga is to taking control over the body, mind and emotional aspects. The cessation of bad thoughts creates a positive vibe around the person and makes him healthy overall.

5.6.4 Yoga Intervention

Yoga is an ancient Indian practice which involves moving the body and training the mind to achieve balance and well-being. The purpose of traditional yoga is for each individual to be healthy, both physically and mentally, and able to reach his or her highest potential as a person. Yoga aim is to prepare the body for meditation through breathing and physical exercises. Yoga emphasizes body-mind wellness through postures or asanas which tone and strengthen our muscles and increase our flexibility. The different asanas, particularly the twists and inversions, stimulate internal organs, as well as the nervous system, and promote circulation in all the body's major organs and glands.

Importance of yoga for children with intellectual disability

1. Helps to co-ordinate the activities of the mind and body.

2. Tends to reduce the distracted state of mind and helping the mind to deal on the present activity.
4. Helps to improve his adaptive behavior to a degree unobtainable before.
5. Actively increase the ability to concentrate on the present activity.
6. Aims at improving general health, concentration, self-reliance and social relationship of the persons with mental retardation.
6. Yoga has been tried as an adjunct in education of children with mental retardation and attention deficit hyperactivity disorder.

5.6.5 Definition of Play Therapy

Play Therapy uses a variety of play and creative arts techniques (the 'Play Therapy Tool-Kit (TM)' to alleviate chronic, mild and moderate psychological and emotional conditions in children that are causing behavioural problems and/or are preventing children from realising their potential.

The Play Therapist works integratively using a wide range of play and creative arts techniques, mostly responding to the child's wishes. This distinguishes the Play Therapist from more specialised therapists (Art, Music, Drama etc). The greater depth of skills and experience distinguishes a play therapist from those using therapeutic play skills.

Play therapy utilizes play, children's natural medium of expression, to help them express their feelings more easily through toys instead of words.

Association for Play Therapy (APT) defines play therapy as "the systematic use of a theoretical model to establish an interpersonal process wherein trained play therapists use the therapeutic powers of play to help clients prevent or resolve psychosocial difficulties and achieve optimal growth and development."

In the textbook Play Therapy: The Art of the Relationship (2nd ed.), Landreth (2002) defined child-centered play therapy:

A dynamic interpersonal relationship between a child (or person of any age) and a therapist trained in play therapy procedures who provides selected play materials and facilitates the development of a safe relationship for the child (or person of any age) to fully express and explore self (feelings, thoughts, experiences, and behaviors) through play, the child's natural medium of communication, for optimal growth and development.

5.6.6 Scope of Play Therapy

Children are referred for play therapy to resolve their problems (Carmichael; 2006; Schaefer. 1993). Often, children have used up their own problem solving tools, and they misbehave. may act out at home, with friends, and at school (Landreth, 2002). Play therapy allows trained mental health practitioners who specialize in play therapy. to assess and understand children's pia).

Further. play therapy is utilized to help children cope with difficult emotions and find solutions to problems (Moustakas, 1997; Reddy, Files-Hall, & Schaefer, 2005). l3y confronting problems in the clinical Play Therapy setting, children find healthier solutions. Play therapy allows children to change the way they think about, feel toward, and resolve their concerns (Kaugars & Russ, 200 I). Even the most troubling problems can be confronted in play therapy and lasting resolutions can be discovered, rehearsed, mastered and adapted into lifelong strategies (Russ, 2004).

5.6.7 Importance of Play therapy

- It is difficult for most children below age ten to eleven to sit still for sustained periods of time. Play therapy provides for children's need to be physically active.
- In play, children discharge energy, prepare for life's duties, achieve difficult goals and relieve frustrations.
- As children play, they are expressing the individuality of their personalities and drawing upon inner resources which can become incorporated into their personality. Virginia M. Axline (1974) who developed the child-centered play therapy asserted that:

  "A play experience is therapeutic because it provides a secure relationship between the child and the adult, so that the child has the freedom and room to state himself in his own terms, exactly as he is at the moment in his own way and in his own time. "
- Play therapy helps to actualize the ultimate objectives of elementary schools facilitating the intellectual, emotional, physical and social development of children from the learning opportunities and experiences offered in school.

5.6.8 Objectives of play therapy

- Develop a more positive self-concept
- Assume greater self-responsibility
- Become more self-accepting
- Become more self-directing
- Become more self-reliant
- Become more trusting of self
- Experience a feeling of control
- Become sensitive to the process of coping
- Develop an internal source of evaluation
- Engage in self-determined decision making

5.6.9 Intervention of Playas a therapy results in

- Developing a more positive self-concept
- Assume greater self-responsibility
- Become more self-accepting
- Become more self-directing
- Become more self-reliant
- Become more trusting of self
- Experience a feeling of control
- Become sensitive to the process of coping
- Develop an internal source of evaluation
- Engage in self-determined decision making

5.7 Therapeutic Intervention: Visual Arts and Performing Arts (Music, Drama, Dance, Movement and Sports)

5.7.1 Visual Arts and Performing Arts :

Art reflects human emotions and human beings spontaneously express their frame of

mind through various art forms. Thus the intellectual mind merges with the artistic streak, giving birth to art.

The visual arts are those creations we can look at, such as a drawing or a painting. For example Drawing, painting, sculpture, architecture, photography, film, printmaking.

It also includes the decorative arts of: ceramics, furniture and interior design, jewellery making, metal crafting and wood working.

The literature available for utilizing art education for exceptional students is generally addressed to art education teachers to use in their classroom. However, expanding the use of art in the education of children with special needs into general and special education is advantageous to these individuals. The art educator can evolve to be a resource and perhaps a liaison between the special and general educator. Thus, to improve the education afforded to students with special needs, art can act as a bridge between general, and art educators to enhance the communication and cooperation between these specialists. Creating a cohesive network between art educators, special and general educators, draws upon the unique perspective that each educator has that can help the others in bolstering special education programs.

The visual arts are a powerful teaching tool that can enhance the cognitive, emotional and social development of children. Children in special education programs are particularly in need of the assistance that the arts can provide.

The performing arts range from vocal and instrumental music, dance and theatre to pantomime, sung verse and beyond. They include numerous cultural expressions that reflect human creativity and that are also found, to some extent, in many other intangible cultural heritage domains.

Music is perhaps the most universal of the performing arts and is found in every society, most often as an integral part of other performing art forms and other domains of intangible cultural heritage including rituals, festive events or oral traditions.

5.7.2 Music Therapy

Music therapy is a well-established allied health profession similar to occupational and physical therapy. It consists of using music therapeutically to address behavioral, social, psychological, communicative, physical, sensory-motor, and/or cognitive functioning. Because music therapy is a powerful and non-threatening medium, unique outcomes

are possible. For individuals with diagnoses on the autism spectrum, music therapy provides a unique variety of music experiences in an intentional and developmentally appropriate manner to effect changes in behavior and facilitate development of skills.

Music therapy may include the use of behavioral, biomedical, developmental, educational, humanistic, adaptive music instruction, and/or other models. Music therapy enhances one's quality of life, involving relationships between a qualified music therapist and individual; between one individual and another; between the individual and his / her family; and between the music and the participants. These relationships are structured and adapted through the elements of music to create a positive environment and set the occasion for successful growth.

The interventions used in Music Therapy aid in fostering skills across the entire developmental spectrum for children with special needs. Music Therapists encourage a child's sense of exploration and wonder as they focus on the goals targeted in your child's Individualized Education Program (lEP).

How Does Music Therapy Make a Difference with Young Children?

- Music stimulates all of the senses and involves the child at many levels. This "multi-modal approach" facilitates many developmental skills.
- Quality learning and maximum participation occur when children are permitted to experience the joy of play. The medium of music therapy allows this play to occur naturally and frequently.
- Music is highly motivating, yet it can also have a calming and relaxing effect. Enjoyable music activities are designed to be success-oriented and make children feel better about themselves.
- Music therapy can help a child manage pain and stressful situations.
- Music can encourage socialization, self-expression, communication, and motor development. Because the brain processes music in both hemispheres, music can stimulate cognitive functioning and may be used for remediation of some speech/ language skills.

5.7.3 Drama Therapy

Drama therapy is the intentional use of drama and/or theater processes to achieve therapeutic goals.

Drama therapy is active and experiential. This approach can provide the context for participants to tell their stories, set goals and solve problems, express feelings, or achieve catharsis. Through drama, the depth and breadth of inner experience can be actively explored and interpersonal relationship skills can be enhanced. Participants can expand their repertoire of dramatic roles to find that their own life roles have been strengthened.

5.7.4 Dance / Movement Therapy

Dance/movement therapy, a creative arts therapy, is rooted in the expressive nature of dance itself. Dance is the most fundamental of the arts, involving a direct expression and experience of oneself through the body. It is a basic form of authentic communication, and as such it is an especially effective medium for therapy. Based in the belief that the body, the mind and the spirit are interconnected, dance/movement therapy is defined by the American Dance Therapy Association as "the psychotherapeutic use of movement as a process that furthers the emotional, cognitive, social and physical integration of the individual."

Benefits of Dance and Movement Therapy:

Dance Movement therapy can help children with special needs in varied ways and in all the areas of impairment. The benefits experienced are as follows:

- It helps in improving attention and concentration and thus helps in furthering education
- Dance as a way of expression of emotion enables children to express through movements
- It helps in forming better relation
- Due to liking towards repetitive movements, a therapist can repeat a movement pattern which the patient needs to learn and when they start imitating the movement vocabulary develops.
- This helps them in learning different patterns of movements required for daily life activities

- Group sessions in dance movement therapy enables in developing social skills and communications of autistic person
- Doing a choreographed dance movement sequence in a series of sessions in a row helps in improving memory and recapitulation skills.
- Touch therapy helps in developing trust on others as well as helps in reducing sensitivity to physical contact and touch.
- Dance movement therapy helps in improving body image of an autistic person.

Dance/movement therapists work with individuals of all ages, groups and families in a wide variety of settings. They focus on helping their clients improve self-esteem and body image, develop effective communication skills and relationships, expand their movement vocabulary, gain insight into patterns of behavior, as well as create new options for coping with problems. Movement is the primary medium dance/movement therapists use for observation, assessment, research, therapeutic interaction, and interventions. Dance/movement therapists work in settings that include psychiatric and rehabilitation facilities, schools, nursing homes, drug treatment centers, counseling centers, medical facilities, crisis centers, and wellness and alternative health care centers. Dance/movement therapy can be a powerful tool for stress management and the prevention of physical and mental health problems. Dance/movement therapists integrate the dancer's special knowledge of the body, movement, and expression with the skills of psychotherapy, counseling, and rehabilitation to help individuals with a wide array of treatment needs. Social, emotional, cognitive, and/or physical problems can be addressed through DMT via group and individual sessions in many different types of settings from hospitals and clinics to schools. The fact that dance/movement therapists are immersed in the language of the body, rather than focusing solely on the verbal, lends characteristics to their work that set it apart from other types of therapy.

5.7.5 Sports Activities for Children with Special Needs

All individuals benefit from regular physical activity and children with special needs especially. Children with special needs are benefitted in the following ways from physical or sports activities.

- We can see improvements in muscle strength, coordination, and tlexibility.
- Improve exercise endurance, cardiovascular efficiency, and possibly increased life expectancy .

- Experience better balance, motor skills and body awareness.
- Will show improvement in behavior, academics, self-confidence and building friendships.
- Will have positive changes in their health, quality of life and boost to their self-esteem.
- Gets to experiences a sense of accomplishment and possibly the taste of winning or personal satisfaction.
- Experience increases in attention span, on-task behavior, and level of correct responding.
- Will increase appetite and improve quality or sleep.
- Will see a decrease in secondary health complications like obesity, high blood pressure, low HOL ("good") cholesterol and diabetes.
- Will find an outlet for their physical energy, will help them cope with stress, anxiety and depression.

Sports and activities especially good for special needs children:

- Swimming
- Bicycling
- Soccer
- Football
- Handball
- Gymnastics
- Bocce (is a ball sport)
- Weightlifting

Sports, especially fundamental and movement education based sports like gymnastics, provide tremendous benefits for children with special needs. Physical education programs can considerably improve the lifestyle of a disabled child and are highly recommended. These programs may help control obesity, promote activeness, increase a child's self-image and social skills, and increase motivation. The physical activity along with support,

rewards, and interaction can, among other benefits, be very helpful to these children and their families. Physical Improvements - Children suffering from cognitive disabilities are most likely going to suffer from physical impairments as well. These children have substantial problems with motor skills in areas such as hopping, skipping, and jumping. Involvement in gymnastics can help these individuals develop fundamental motor and physical fitness skills. Self-Esteem - Developing a sense of self-esteem and confidence is an extremely important part of special education. These children need to be involved in environments where they feel that they are contributing successfully to a group. Their abilities in all other skill areas will improve as a result of a positive self-image and confidence. Cognitive Benefits - The hands-on aspect of sports leads to cognitive skill improvement in children with disabilities and allows them to discover and access strengths that cannot be challenged in the traditional classroom setting. The inherent structure of sport, with its organization and rules, can be used as a learning tool for introducing and practicing self regulation and decision making skills. Additionally, children can learn verbal communication and interaction with peers through involvement in sport.

Special Olympics

The mission of Special Olympics is to provide year-round sports training and athletic competition in a variety of Olympic-type sports for children and adults with intellectual disabilities. This gives them continuing opportunities to develop physical fitness, demonstrate courage, experience joy and participate in a sharing of gifts, skills and friendship with their families, other Special Olympics athletes and the community.

- The Special Olympics is the only organization authorized by the International Olympic Committee to use the word "Olympics" worldwide.
- Athletes compete in 32 sports, including snowboarding, judo, cricket, soccer.
- The Specal Olympics program Healthy Athletes offers 1.4 million free health examinations in more than 120 countries to athletes at Special Olympics competitions. Health professionals perform a full exam in the categories of podiatry, physical therapy, audiology, vision, dentistry, physical therapy and more and more.
- More than 3.1 million athletes from over 175 countries take part in the Special Olympics.

- Special Olympics athletes are divided to compete in categories based on gender, age, and ability.
- The Special Olympics athlete oath is "Let me win. But if I cannot win, let me be brave in the attem pt."
- Special Olympics World Games are held every two years, alternating with Summer and Winter Games.

5.8 Let us Sum Up

1. "Occupational therapy is the art and science of directing man's participation in selected tasks to restore, reinforce and enhance the performance, facilitate learning of those skills and functions essential for adaptation and productivity, to diminish or correct pathology and to promote and maintain health." (Council of Standards, American Occupational Therapy Association, 1972).
2. An Occupational Therapist will aim to enable the child to be as physically, psychologically and socially independent as possible. Occupational Therapists work in close partnership with the child and their family, schools and other healthcare professionals. Together they have a shared responsibility for meeting the child's needs. In schools, for example, they evaluate the child's abilities, recommend and provide therapy, modify classroom equipment, and help the child participate as fully as possible in school programs and activities.
3. Occupational therapy interventions for people with intellectual disabilities are specifically adapted to the client with respect to the degree and type of support needed as well as the context. Interventions may include direct treatment as well as environmental adaptations, guidance, monitoring and counseling (including of the family, the educational staff, the clinical staff, employers and others).
4. Physiotherapy has scope in treating a wide range of conditions. It play an important role in all the branches of medical sciences, especially Orthopaedics, Paediatrics, Neurology, Cardio thoracic, Surgery, Sport Medicine etc. In set ups like leprosy, paraplegic and poliomyelitis after plastic surgery, burns clinics, spinal cord injury centres and in assistive devices manufacturing units etc.
5. A speech language pathologist sets broad but specific goals for each of his patients. Specific goals can include helping patients develop clearer speech, learn to use

alternate methods of communication, develop better reading and writing skills, and strengthen throat and neck muscles. Goals also may include coordinating treatment programs with other professionals or referring patients for other treatments. For example, a patient with a swallowing disorder may benefit from the collaborative care of a speech language pathologist and a medical doctor.

6. Yoga is one of the six schools of ancient Indian Philosophy. It is the practice that enables one to achieve higher levels of performance, bringing out the hidden potentials from within. Systematic Yoga practice will increase the physiological and psychological well being.

7. Music therapists involve children in singing, listening, moving, playing, and in creative activities that may help them become better learners. Music therapists work on developing a child's self-awareness, confidence, readiness skills, coping skills, and social behavior and may also provide pain management techniques. They explore which styles of music, techniques and instruments are most effective or motivating for each individual child and expand upon the child's natural, spontaneous play in order to address areas of need.

5.9 Check Your Progress

A.1. What is the difference between Occupational Therapy and Physiotherapy?

2. Explain the objectives of the different therapies applicable for children with special needs?

3. Discuss about Dance and Movement Therapy.

B.1. Discuss about the importance of yoga for children with special needs.

2. Prepare a short note on Therapeutic Application of Drama.

C. After going through the Unit you may like to have further discussions on some points and clari fication on other.

1) Points for Discussion

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2) Points for Clarification

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Unit - 3 ❑ Teaching Strategies and TLM

Structure

3.1 Introduction

It is observed that regular educator or special educator employs various strategies according to the content/ skills while teaching children in classroom. The children with Mental Retardation have less capacity to learn skills, to maintain and to generalise the learnt skill due to the intellectual impairment. Hence, special teaching strategies and techniques need to be used with the children with Mental Retardation for individualized or classroom teaching. The various teaching strategies such as task analysis, modelling, Errorless Discrimination Learning (EDL), shaping, chaining, prompting and fading are commonly used while teaching the children with Mental Retardation. In addition to this use of appropriate rewards and reinforcement is also essential for their learning. There are certain basic fundamental principles which may be followed when teaching children with mental retardation. The individual educational plan which is based on the need of the child is always based on these teaching principles. Based on these principles multi-sensory approaches are used that teaches all children regardless of their preferred learning style. There are some special teaching strategies for children with mental retardation like; Montessori method; Fernald VAKT Approach and Orton-Gillingham Approach. Due to less capacity of intellectual functioning the teachers have to employ various teaching strategies and techniques for their teaching. In addition to reinforcement techniques (used for learning) are much effective for their skill development. To do so, development and use of proper TLM must be introduced by the teacher which will be helpful to achieve the objective of learning and the process to reach the goal desirably.

3.2 Objectives

After completing the unit, you will be able to understand:

- Importance of instructional hierarchy for teaching children with mental retardation

- Teaching procedure and Importance of different stages of learning
- Different principles of teaching
- The meaning, nature and concept of the multisensory approaches.
- Need and importance of multisensory approaches for children with mental retardation.
- Alternative and augmentative communication and its implication for the children with special needs.
- The importance of various teaching strategies and their correct uses
- The reinforcement techniques in teaching children with mental retardation.
- The concept of TLM
- Advantage of using TLM
- TLM for different curriculum level

3.1 Stages of Learning

Stages of Learning

The instructional hierarchy of acquisition, fluency, maintenance and generalization is followed in special education for children with mental retardation. Understanding of these stages by the teacher helps in setting goals, maintaining learnt skills and generalisation of skills.

Acquisition

This is the stage of learning of the new task. The child is formally introduced to the task in this stage for the first time. With repeated errors in the beginning stage gradually the child masters with the high level of accuracy. The task is carefully analyzed for structured teaching. Consistency in the teaching pattern and repetition of the same prompt and environment is necessary at this stage. All this helps, the child in attaining the skills with conditioning. The higher interaction between teacher and student must be effective for learning

Fluency

When the child learns to perform the skill / activity with accuracy fluency of the skill learnt is emphasized. Plenty of opportunity for practice is provided. As the activity in

this stage are in repetitive; regular feedback and reward helps to sustain the motivation of the trainee. Fluency is an aspect that can't be ignored as it finally tells us that the child is performing the skills without experiencing any difficulty.

Maintenance

Learnt skill if not re-taught or practiced tends to be forgotten. We must ensure that children maintain the learnt skills with accuracy and fluency. At the end of this stage children need to complete the task independently with accuracy and fluency.

Acquisition Stage is an antecedent to the stages of maintenance and generalization stage is subsequent stage to maintenance. In maintenance the child should be able to perform the task without applying the original task training procedure. Through over learning trials and distributed learning technique for appropriate practice can be given for maintenance.

Over Learning

Here half of learning work given at acquisition stage is given for repeated practice. When a task at acquisition stage is taught for one hour for one month; in over learning stage the task shall be taught for 30 minutes for 15 days only. Distributed Practice

Across a designated period of time when the task is systematically distributed it is called distributed practice. It is targeted at long term memory and execution of generalization stage of learning. Here the task is practiced intermittently like twice a week for 30 minute and to be continued for several weeks.

Generalization

When a behaviour/skill is demonstrated in other circumstances than in which the child was trained is referred to as generalization. Under the same circumstances if similar behaviour occurs which is different from the learnt behaviour is also referred to as generalization.

The two types of Generalization are :-

(a) Stimulus generalization: Similar response to new stimulus having common characteristics of the previously learnt stimulus. E.g. student have learnt number 1-10 in his book / flash card. Identifying the number in any other place like buses, trains, house, calendar etc., shall be referred to stimulus generalization.

(b) Response generalization: Learning to apply a learnt skill in other related activity

is referred to response generalization. Students who have learnt to stitch (hemming) in piece of cloth shall stitch (hemming) on the clothes or material requiring hemming.

3.4 Principles of Teaching

Introduction : There are certain basic fundamental principles which may be followed when teaching children with mental retardation. The individual educational plan which is based on the need of the child is always based on these teaching principles.

Objective : After completing the unit you will be able to understand

- Different principles of teaching
- Importance of the Principles for Teaching Children with Mental Retardation

Teaching Princples :

1. **Simple to Complex -** Teaching always starts with these step where the child is able to do the certain skill successfully. The success of the child motivates him to learn more to reach the goal. The goal should be set as if the child is able to finish. Too high goal must be avoided in the first stage of learning. Simple steps lead to the gradual complex steps as for example while teaching common names of colour, the child at first learns to name one colour first then gradually other names of the colour should be added.
2. **Known to unknown -** While teaching child with mental retardation, the starting point should be where the child already knew. From the known level, the teacher will help him to go to the unknown level which is higher. The known level must be matched with the current level of the child. Assessment data will be helpful for this purpose. The child must be given the opportunity to indicate what he knew. A child must feel confident while going upper level. Viz. While teaching the number concept from 10 to 15, the lesson must be started from 1 to 10, then gradually move to 15 chronologically.
3. **Concrete to abstract -** The abstract concept is much higher than concrete one. The children with mental retardation can be able to handle concrete concept better than abstract one. So for teaching, the teacher must start from concrete to abstract direction. While teaching this concrete object along with the picture, can be helpful for teaching. Concrete objects must be present as far as possible while teaching. As for example, to teach the concept of evening, one must be refer to activities related to evening, pictures of evening etc. To teach the concept of evening.

4. **Whole to Part -** Another principle is whole to part where any concept must be started as a whole. The children must learnH:lg the concept as it is. Then the part of it can be given, For Example While teaching about Banana first the name of the Banana will be given then the other details such as peeling of skin, taste, texture can be taught.

3.5 Multi sensorial approach

Introduction

The word multisensory means "relating to or involving several bodily senses". Hence, multi sensory learning is the process of learning through the use of two or more senses. This may include combining visual, auditory, tactile- kinesthetic, and/or even olfactory and gustatory senses. (Scott 1993). A multi sensory approach is one that integrates sensory activities. The students see, hear and touch. Activities such as tracing, hearing, writing and seeing represent.

The four modalities of touch, auditory, kinesthetic, and vision respectively. For example, to teach spelling Graham and Freeman (1986) use a strategy that incorporates the four modalities. Students say the word, write the word, check the word, trace the word, write the word from memory and check, and then repeat the entire process. In essence, a multisensory approach incorporates the learning styles for visual, auditory, kinesthetic, and tactile learners. This approach does not single out specific students. A multisensory approach is an eclectic approach that teaches all children regardless of their preferred learning style. Most teaching in schools is done using either sight or hearing (auditory sensations). A child with mental retardation may experience difficulties with either or both of these senses alone due to their limited cognitive abilities. Therefore involve more senses, especially the use of touch and movement (kinetic). This will give the child's brain tactile and kinesthetic memories to hang on to, as well as the visual and auditory ones: Empirical studies support to multi sensory teaching. In a study executed across classrooms in Queensland, Australia, 'Morton, Jones and Toohey (1982) implemented a multi sensory teaching programmed, called Multi sensory Basic Fact Program (MBFP), into remedial classrooms for students in grades two through six. This programme incorporates visual learning through pictures as teacher provides oral prompts. Students are also involved kinesthetically when learning new concepts by tapping or finger tracing. To test the usefulness of this multi- sensory teaching program,

these students were given an addition — facts test before beginning the program and again after the 11- week instruction phase. All of the grade levels except grade two (possible because they were not yet at the stage in which the material could be absorbed) showed marked improvement from pretest to posttest. And, although the students had not reviewed the information before the follow up test, they retained their knowledge of the concept after a three week period. • Following are a few of the popular and well tested multisensory teaching methods that are found effective on children with mental retardation.

• Montessori method • Fernald VAKT Approach • Orton-Gillingham Approach

3.5.1 The Montessori Method

The Montessori Method derives its name from Maria Montessori (1870-1952), the founder of this method. Maria Montessori was an Italian doctor; she became the first Italian woman to get the status of Doctor of Medicine, who later on became one of the greatest educationists of the world. Dr. Maria Montessori developed Montessori Method as an outgrowth of her post-graduate research into the intellectual development of children with intellectual and developmental disabilities. Building on the work of French physicians Jean Itard and Eduard Seguin, she developed an environment for the scientific study of children with physical and mental disabilities. By 1906, Montessori was well-known enough that she was asked to head a day-care center in Rome's poor San Lorenzo district. She used the opportunity to observe the children's interactions with sensorial materials (developed to appeal to the senses), refining them, and developing new materials Wilich the children could work.

Hallmark of Montessori Method of education.

Montessori, teachers observe children's exploratory attempts of behavior with an implication of the trust that a child will "know" and pursue what she or he most needs in order to become an adult.

Montessori sensorial material

1.-**The cylinder blocks**:-There are 4 cylinder blocks. The purpose of the cylinder blocks are to provide various size dimensions so the child can distinguish between large and small, tall-and short, thick and thin, or a combination of the both. There are several activities that can be done with the cylinder blocks. The main activity involves removing the cylinders from the block and replacing them

2-The pink tower:- The pink tower work has 10 pink cubes. The smallest cube is 1 cubic centimeter and the largest cube is 10 cubic centimeters. The work is designed to provide the child with a concept of "big" and "small. The Child starts. With the largest cube and puts the 2nd largest cube on top of it. The work continues until all 10 cubes are stacked on top of each other

3- The broad stair:-The broad stair is designed to teach the concepts of "thick" and "thin." The broad stairs are 10 sets of wooden prisms with a natural or brown stain finish. The work is designed to provide the child with a concept of • big" and "small. The child starts with the largest cube and puts the 2nd largest cube on top of it. The work continues until all 10 cubes are stacked on top of each other

4-The red rods:-The red rods are 10 red rods with equal diameter. They vary only in length. The smallest is JO cm long and the largest is one meter long. Each rod is 1 square inch thick. By holding the ends of the rods with two hands, the material is designed to give the child a sense of long and short in a very concrete manner

5-The colored cylinders :- There are 4 boxes of cylinders, yellow cylinders that vary in height and width. The shortest cylinder is the thinnest and the tallest cylinder is the thickest. Red cylinders are of the same height but vary in width. Blue cylinders have the same width but vary in height. Green cylinders vary in height and width. The smallest cylinder is the thickest and the tallest cylinder is the thinnest. The child can do a variety of exercises with these materials, including matching them with the cylinder blocks, stacking them on top of each other to form a tower, and arranging them in size or different patterns. When the yellow, red, and green cylinders are placed on top of each other, they all are the same height

6-The trinomial cube:-The trinomial cube is similar to the binomial cube, but has the following pieces: The binomial cube is a cube that has the following pieces: 1 red cube, 6 black and red prisms (varying in size) 1 blue cube and 6 black cube, blue prisms (varying in size) 1 yellow cube' and 6 black and yellow prisms (varying in size).

The Montessori Method of teaching may be divided in to four parts as given below

- Sensory training
- Training in practical life activities
- Motor training
- Language and arithmetic teaching

Sensory training Madam Montessori gives much importance to sensory training as she regards senses as the gateways of knowledge. Different kinds of material are used to develop sensory training in children. You may be aware that there is exclusive teacher training programmes for Montessori approach. Montessori training materials are universally used. Given here (in the box above) is a sample description of the training material and their purpose. Training in practical life activities According to Dr. Montessori, exercises are called 'exercises in Practical Life' because in the children's everyday life on which all house work is entrusted to the little ones, they execute with devotion and accuracy their domestic chores, becoming singularly calmed and dignified. The students are required to sweep their rooms, dust and clean the furniture, and arrange it as they like. They learn dressing, undressing, and washing themselves. They are expected to hang up their clothes tidily. They lay their tables. The children take .tunas in various household duties and learn by imitation to conquer their difficulties in the process. Enthusiasm and delight, fellow feeling and mutual aid are characteristics of the children learning jobs. The students learn how to wash their lands, use their own soap and towels, comb their hair, cut their nails and brush their teeth. The main purpose is to give children training ih self- reliance and independence and also to be independent. As teachers of children with mental retardation, you will see the relevance of Montessori Method in training in independent living skills.

Motor training These practical life exercises are considered to be very helpful for motor education. Muscular education is imparted to enhance the movements of walking, sitting and holding objects. The care of child's own body, managing the house hold affairs, gardening and manual work and rhythmic movements provide motor education. Children also learn how to walk in straight lines and to balance properly.

Language and arithmetic teaching Madam Montessori is of the opinion that muscular skill' in children is very easily developed and therefore, the teaching of writing should precede the teaching of reading. According to her, writing is a purely mechanical activity and reading partly intellectual. • Teaching writing. There are three factors involved in writing. i) Movements which help in reproducing the forms of letters. ii) Manipulation of the pen iii) the phonetic analysis of words in writing dictation. The letters of the alphabet are cut in sand paper and pasted on card- boards. The students are asked to pass their fingers on them. The students learn to establish the visual muscular images of the letters. At the same time, the plionetio sounds are also-taught stages-association, .recognition, and recall: There are certain exercises through which the students are taught the handling of the pen:

• **Teaching reading**. Montessori was not in favor of reading the sentence aloud. The child is handed over a card on which the names of the familiar objects are written and pasted. The child is asked to translate the writing slowly into sounds and then he is asked to read faster. After some practice, the child learns the correct pronunciation of the word. Then the child is asked to attach the cards with objects lying there. • Teaching of number. A 'long stair' is used in the teaching of numbers. It consists of a set of ten rods varying in length from 1 to 10 decimeters. It is divided into parts painted red and blue alternatively. The child learns first to arrange the rods of size and then he counts the red and blue divisions and names the rods as one, two three and so on. 'The signs of the numbers are cut in sand paper and the same procedures of the three stages-associations, recognition and recall is followed.

Role of the teacher

Traditionally, the Montessori teacher is called a Director or Directress, because the role is to direct rather than teach. The role of the directress includes: making the children the center of learning, encouraging the children to use the freedom provided to them and observing the children in order to prepare the best possible environment. This includes recognizing sensitive periods and diverting unacceptable behavior into meaningful tasks. Child without letting him feels her presence too much. The directress is there to "prepare the path and step aside and let the child walk." Although the Montessori directress believes in freedom for the child and in the child's ability to exercise that freedom, this does not mean the child is free to make unlimited choices. Within the framework of choices provided by the Directress, the student is free to choose. The child must know how to properly use the materials before he/she may work with them. Choice is a product of self-control and discipline. There is external order and rules to the environment which yield the internal order of control.

Merits of the Montessori Method

The chief merits of the Montessori Method are:

- Reverence for small children To Madam Montessori "the child is god". Her school was the temple and duty of the temple was the recognition of the essence of the childhood. She further writes, "to-day there stands forth one urgent need_ the reform of the methods in education and instruction, and he who struggles towards this end is struggling for the regeneration of man".

- Scientific bases of the method is based upon scientific grounds. Madam Montessori was a scientist and she applied scientific principles based on experience and observation and not upon prejudice.
- Individual teaching Individualism is the key- note of the Montessori Method. Her method is a reaction against collective teaching. As observed by John Adams, Dr. Montessoii "has rung the death knell of class teaching".
- Freedom for Children

  She ranks among the forefront educators who want to give education in an atmosphere of complete freedom. In her method discipline is that of self- control and self directed activity.
- Sense training The Montessori Method aims at educating the children through the sense training. It is based upon the maxims 'proceed from concrete to abstract', from 'general to specific'.
- Unique method of reading and writing The focus is on the muscular movements in the process of writing. Properly graded and correlated exercises for reading and writing are provided.
- Learning through living Practical exercises in school enable children to learn good habits of cleanliness and order. The students learn the lesson of dignity of labour and self help by attending to their needs themselves.
- Training in Social Life Though this method is individualistic in nature, yet it is full of social values such as serving at the table, having lunch together, and cleaning plates and the students perform many other activities cooperatively.

Compare Montessori method of teaching to the traditional approach used in teaching children with mental retardation and analyze.

3.5.2 Fernald's VAKT approach [Grace Fernald (1879-1950)]

Fernald's VAKT approach Grace Fernald (1879-1950) was an influential figure in early twentieth century literacy education. VAKT refers to Visual, Auditory, Kinesthetic and Tactile sensory approach. Fernald established "the first clinic for remedial instruction in 1921 at the University of California, Los Angeles" (Smith, 2002, p.181). Fernald's kinesthetic spelling and reading method prompted struggling students to trace words. Fernald's notion of incorporating the physical with the auditory, verbal, and visual

elements of reading instruction, now known as VAKT multimodal learning, or multisensory imagery, continues to guide educators today.

- The same word may be written again in children's own stories. It may be important to learn spelling of words.

The relevance of VAKT method to mental retardation and remedial instruction in resource settings

This is one of the most effective methods in teaching children with mental retardation. As they often exhibit weak memory, they may have problem in remembering the alphabets and their sounds. Therefore it is difficult for they-i to read any particular language. This can lead to difficulties in leading an independent life for example. Reading sight words (toilet, bus stop, railway station and so on). Empirical evidence lends support to this approach for teaching word identification to students with severe reading disabilities (Berms and Eyer, 1970; Coterell, 1972; Fernald, 1943; Kress and Johnson, 1970; Thorpe and Borden, 1985).

Teaching a sight word

A sight word is a word for which students can recognize the pronunciation and meaning automatically. When reading words by sight, words are accessed from information in memory, that is, from one's storehouse of words. For emergent readers, visual cues assist in recognizing familiar words when they are highly contextualized.

Procedures: Write each word on a word card. The procedure for teaching these words is as follows:

1. Discuss the words with students to ensure that they understand the meanings of the words as the words are being used in the text.
2. Present the words to the students' one word at a time. Each word is exposed for five seconds, and the teacher says the word twice.
3. Ask students to identify the word on each card. Provide corrective feedback by verifying the correctly identified words, giving the correct word for any word that is miscalled. and saying the word if students do not respond in five seconds.
4. Present the words again, using the format given in step 2.
5. Have students identify each word, using the format given in step 3. Repeat this step at least two more times or until they can automatically recognize all the words.

Procedure-

The sight word association procedure uses corrective feedback and drill and practice to assist students in associating spoken words with written form.

Picture association technique-On a separate card, draw a simple picture, or find a picture and attach it to the card. In some cases, the students may want to draw their own pictures. Use the following procedure to teach the picture—word association:

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Procedures: Write each word on a word card. The procedure for teaching these words is as follows:

1. Discuss the words with students to ensure that they understand the meanings of the words as the words are being used in the text.
2. Present the words to the students' one word at a time. Each word is exposed for five seconds, and the teacher says the word twice.
3. Ask students to identify the word on each card. Provide corrective feedback by verifying the correctly identified words, giving the correct word for any word that

is miscalled. and saying the word if students do not respond in five seconds.

4. Present the words again, using the format given in step 2.
5. Have students identify each word, using the format given in step 3. Repeat this step at least two more times or until they can automatically recognize all the words. The sight word association procedure uses corrective feedback and drill and practice to assist students in associating spoken words with written form.

Picture association technique-On a separate card, draw a simple picture, or find a picture and attach it to the card. In some cases, the students may want to draw their own pictures. Use the following procedure to teach the picture—word association:

1. Place each picture in front of the students, labeling each one as you present it. Have the students practice repeating the names of the pictures.
2. Place the next to picture the word it represents, again saying the name of the word.

   Have the students practice saying the names of the words.
3. Have the students match the words to the pictures and say the name of the word while matching it. Repeat this process until students' easily match the pictures and words.
4. Place the words in front of the students, and have them identify the words as you say them. If they cannot identify the correct words, have them think of the pictures to aids in their recognition. If they still cannot point to the words, show them the picture that goes with the word.
5. Have students recall the words by showing the word cards one at a time. Again, if students can not recall a word, have them think of the picture. If they still cannot think of the world, tell them to look at the picture that goes with them world.
6. Continue this procedure until the students can identify all the words at an automatic level.
7. Have students review the words on subsequent days and, most important, give them plenty of opportunities to read the words in next. When a student is reading and cannot identify a words, encourage the students to think of the picture

Merits of Fernald VAKT approach:-

- Basic sight words fairly quickly, albeit one word at a time.
- Another benefit of this technique is that spelling of sight words is concurrently learned.
- Learners find it easier to learn to read and write when each sound has its own symbol.
- As learners are successful in reading in the very beginning stages of teaching reading. it creates a feeling of success and enthusiasm for the learner.
- The learner will be better at self-expression at an early stage

3.5.3 Orton and Gillingham approach

The Orton-Gillingham method was introduced by Samuel Torrey Orton, (1879-1948), a Neuro psychiatrist and pathologist, and Anna Gillingham, (1878-1963), an educator and psychologist. Dr. Samuel Torrey Orton and his colleagues began using multisensory techniques in the mid-1920 at the mobile mental health clinic he directed in Iowa. Orton was influenced by the kinesthetic method described by Grace Fernald and Helen Keller. He suggested that kinesthetic-tactile reinforcement of visual and auditory associations could correct the tendency of reversing letters and transposing the sequence of letters while reading and writing. Orton noted that each child presents an individual problem, not only because of the diverse influence of a considerable number of environmental conditions, but also because of the relative part played by each of the three major functions entering in to language faculty; vision, audition and kinesthetic varies, remarkably in different children as does the emotional reaction to his disability.

Importance

- The Orton-Gillingham method is important to a student's reading development because it is systematic and also individually tailored to fit each child. Orton-Gillingham is an approach, not a method. This means that it is flexible and focuses on the needs of the individual student.
- While the tutor carefully constructs each lesson in advance, he is able to make appropriate changes in the moment when needed. This is also called "diagnostic teaching." During his life time, Drton directed many research projects dealing with developmental reading disabilities.Jt was during one of these projects that he met

Anna Gillingham (1878-1963), a teacher and a psychologist in the field of language disabilities. Together they developed procedures and comprehensive materials for early identification and remediation of dyslexic.

Their programme is known today as the Orton- Gillingham approach. Anna Gillingham and Bessie Stillman based their original 1936 teaching material for the "alphabetic method" on Dr. Orton's theories. They combined multisensory techniques with teaching the structure of written English, including the sounds (phonemes), meaning units (morphemes such as prefixes, suffixes, and roots) and common spelling rules. • The Orton- Gillingham approach is a structured; multi sensory phonics approach.

- It is systematic; proceeding from simple to more complex and cumulative in that new information builds on that which has been previously learned. • Multisensory reinforcement and practice cement new learning in to long- term memory.
- This comprehensive approach to reading instruction benefits all students.

Step I The educator shows a flash card with one letter on it. The educator says the name of the letter and the learner repeats the name. When the learner has mastered this, the educator says the sound of the letter and the learner repeats the sound. When this has been mastered, the educator shows the flash card, asks what the letter says and the learner gives the sound of the letter.

Step 2 without showing the flash card, the educator now gives the sound of the letter and asks which letter makes that sound. The learner then gives the name of the letter. This helps the learner very much with spelling in future.

Step 3 The educator now writes the letter and explains how it is written and in this manner teaches the learner how to form the letter properly — teaching writing skills. The learner then traces over the letter on the lines the educator wrote, copies it, writes it again from memory, or writes it in the air with eyes closed. Lastly the educator then makes the sound of the letter and the learner has to write the letter, which makes that sound.

Once the first lot of letters has been mastered, learners learn to blend them into words by forming simple consonant-vowel-consonant words (mat, hit, jab). Once learners can blend, spelling is introduced. The educator says the word; the learner first repeats the word, then names the letters, writes them down and says the word once the whole word has been written down. Once the learner can write any phonetically pure three-letter word, the learner can start writing stories using these three letter words (simple consonant-vowel-consonant words such as cat, run).

The educator introduces non-phonetic words using lots of drill work. Once the learner can read, write and spell the short 3 letter words with ease, consonant blends are introduced. Syllabification, dictionary skills and more spelling rules are introduced afterwards. To be successful with the approach, it has to be followed rigidly. It does not include meaningful, interesting activities and puts little emphasis on comprehension, but it can be a successful method to use for learners who find it very difficult to learn to read.

The relevance of Orton-Gillingham method to mental retardation and remedial instruction in resource settings

This reading remediation method that built associations between the modalities such as "having the child trace [the letter] over a pattern drawn by the teacher, at the same time giving its sound or phonetic equivalent- (Orton, 1937, p. 159) or teaching spelling through analysis and writing of the sequence of sounds in words. It is very useful for children with mental retardation. as they difficulty in learning any second language. Both special education and general education teachers have found this practice an effective and efficient way to organize word identification instruction. Students report that they enjoy the activity and manipulating the letters (Cunningham, 1991; Schumm and Vaughn, 1995).However. Schumm and Vaughn (1995) found it necessary to develop simpler lessons and to focus more on teaching word families with less able readers,

Teaching phonic generalizations Procedures: This method teaches students how to identify words by teaching phonic generalizations and how to apply these generalizations in reading and spelling. It is designed to be used as the exclusive method for teaching reading, spelling, and penmanship for a two-year period at minimum. Initially, students who use this method should read only materials that are designed to conform with the method. Other written information, such as content area textbooks, should be read to the students

Teaching letters and sounds Procedures: The teaching of letter names and letter sounds employs associations between visual, auditory, and kinesthetic inputs. Each new sound—symbol relationship or phonogram is taught by having the students make three associations: • Association I (reading). Students learn to associate the written letter with the letter name and then with the letter sound. The teacher shows the students the letter. The students repeat the name. The letter sound is learned by using the same procedure. • Association II (oral spelling). Students learn to associate the oral sound

with the name of the letter. To do this, the teacher says the sound and asks the students to give its corresponding letter. • Association III (written spelling). The students learn to write the letter through the teacher modeling, tracing, copying, and writing the letter from memory. The students then associate the letter sound with the written letter by the teacher directing them to write the letter that has the sound.

Merits of Orton-Gillingham approach • Personalized: Orton Gillingham approach is highly personalized in nature. It caters to the individual needs of the learners. In this method, teaching begins with recognizing the differing needs of learners.

• Multisensory: It uses all the learning pathways: seeing, hearing, feeling, and awareness of motion, brought together by the thinking brain. The teacher engages in multisensory

3.5.4 Alternative and augmentative communication

. Definition The American Speech-Language-Hearing Association (ASHA, 2005) defines AAC as: "...Attempts to study and when necessary compensate for temporary or permanent impairments, activity limitations, and participation restrictions of persons with severe disorders of speech-language production and/or comprehension, including spoken and written models of communication." AAC methods provide a means of self-expression for individuals whose oral communication is severely restricted. AAC allows these individuals to express their wants, needs, ideas, and opinions. Quality of life and independence are often greatly improved when AAC is introduced as these individuals are able to participate in more and more daily communication exchanges. AAC methods supplement deficient oral communication, and so anyone with impairment in this area may benefit from their use.

Populations commonly served by AAC include persons with • mental retardation, • autism, • cerebral palsy, and • Developmental aphasia of speech. Some individuals with acquired impairments may also use AAC. These conditions include • multiple sclerosis, • amyotrophic lateral sclerosis, • traumatic brain injury, • stroke, and • Spinal cord injury may also use AAC.

Types of augmentative and alternative communication: - AAC systems fall in to two major categories, namely Aided system and unaided system (Lloyd, 1985).

1) Aided system:-Aided system requires use of some sort of device, electronic or non-electronic, that is used to transmit or receive messages, such as communication books

or voice output devices using symbols such as photographs, line drawings, words or letters, a picture or wood board, a textbook, or a computerized aid. Since the skills, areas of difficulty and communication requirements of AAC users vary greatly, an equally diverse range of communication aids and devices exist to meet these demands. The aided system includes the following types of aids:—

• **Communication Boards**: Basically, a communication board is any type of flat surface containing written or pictorial symbols from which a student makes a selection to communicate a specific message. Communication board can take many forms, such as a single drawing for a card with the word placed on a table. Students learn to use these one symbol boards to obtain desired items. When more than one symbol is displayed, the student must choose among them. Initially a display may contain only few choices, such as one picture and two gross distracters (e.g., a blank card and a partial drawing). Later the complexity and number of target symbols and distracters may be gradually increased.

Single purpose displays: Small displays can be designed for specific situation or needs. Examples include, **a**)multiple — pocket plastic slide protector with pictures for specific activity such as bathing or dressing-(**b)** a page of pictures of items to be ordered in a fast food restaurant **(c**) a new information pocket to hold news papers clippings, photos or mementos of recent events to facilitate initiating conversation.

Multiple Displays: For general purpose, multiple displays can be combined in to one unit for multipage, or multiple sheet, display such as notebook or flip chart. Multiple displays can range in complexity, depending on the needs of the learner. When a student has learned to use a multiple display, organization of vocabulary across pages becomes important. One possibility to arrange the vocabulary by category, with the pages coded by color for each one (e.g. food on blue paper, leisure and recreation items on pink.).

• **Conversation Aids**: Some aids are designed specifically to enable conversation between peers. One such communication book is organized by topic according to home, school and community environment. First, the student, parents, teachers and other service providers for interest of the student. Then they select photo and drawing for places, people, objects, and activities for each topic. They place the photos and drawing in a small photo album and attach it to the student's belt. With training and frequent changes of photos, photos, the students learn to use the topic- setting album to converse with peers.

- **Electronic Aids -** Simple electronic devices such as tape recorder can serve some communication needs. In one such application, students used tape- recorded messages to gain teachers attention from across the room or to obtain a drink at a shopping mall. The students, who have multiple disabilities, including profound mental retardation, use' individually tailored micro switches to control the tape recorders., Other communication needs can be met through high- technology devices, including personal computers and microprocessors- based dedicated aids designed and programmed specifically for AAC. An example is the lapboard-sized Touch Talker, which has a display monitor, voice output, and a pressure-sensitive keyboard on which overlays of student- tailored symbols may be placed. Various peripherals are also available, such as the Dunamis Power Pad and the Unicorn Keyboard, which are pressure sensitive key boards that can use pictures or photos of various sizes. Usually the input mode for the device can be selected for the individual's motor or sensory needs. Input modes also, include standard keyboards, expanded keyboards, touch- sensitive screens, micro switches and voice recognition devices or software.

There are also various output modes, such as screen displays, printed copy, and **voice output communication aids (VOCAs)**. The output mode of synthesized speech offers several advantages, including greater conversational control, maintenance of normal eye contact.

Speed can often be adapted for the student, as can variations such as row- column scanning and joystick- directed scanning. Even with such techniques, scanning is usually slower than direct selection. However ever, like the human- aided form, electronic scanning requires only one reliable motor response, so it can give an individual at least one independent means of communicating. An interesting way to teach electronic scanning is through a video- computer game.

Encoding: The third general category of response mode is encoding. The technique in which each vocabulary item is written on a list or remembered (by the student or computer) with a code of two or more letters, numerals, or colors. The student uses this code to retrieve the vocabulary, there by having relatively rapid access to a large number of choices. Symbol system: Symbols for objects of some sort must be displayed on an aid so that the student can select or compose a message. Options commonly used by person who have limited language skills, include objects, photographs and pictorial symbols Objects: some students do not understand that pictures can be used to refer to

objects or events. When this is true, objects can be used. Students can use pointing or scanning to select objects placed in a sectioned display box, attached to a board in some way. Photographs: Mirenda and Locke (1989) found that individuals who had mental retardation understood miniature objects less often then they understood photos. Photos of a student's cup. Preferred game or a favorite snack may be useful as symbols. A photo may be identical to its referent a photo of the exact cup a student uses at snack time) or may he non-identical (a photo of any cup). Miranda and Locke (1989) found that when asked to match objects to photos, individuals who had mental retardation did equally well with non-identical and identical color photos. They also did as well with non-identical color photos as with identical; woman. black and white photos. To help students learn the relationship between a photo and its referent. Dixon (1981) found that cutting out the figure of the photo and training cutout- to- object matching was effective for three out of the four students with whom it was tried. She also found that the three students who learned to match cutouts with objects generalized this skill to matching whole photos with objects. Pictorial symbols: Whether drawn or purchased, pictures are commonly used symbols. Some students can recognize certain types of pictures and not others and so individualized screening is essential. Screening will also indicate the best size and position of pictures for the students. If a student can match non-identical pictures with their referent, standard symbol sets may be considered.

A factor that appears to influence how easily various pictorial symbols are learned is their recognizability, or iconicity. Iconicity may be thought of as a continuum from transparent (obvious easy to guess, iconic), to opaque (not at all obvious or guessable). Symbols between these two extremes are translucent, that is, those for which the relationship between symbol and referent is understandable once both have been explained.

Unaided AAC

Unaided AAC systems are those that do not require any external device for their use. in which the individual uses only hand or body motions to communicate. It includes facial pantomimes are that they are always available to the user, usually understood by the listener, and are efficient means of communicating. Gestures are one means of referring to people, objects or events in the immediate environment. Used with or without accompanying vocalization, gestures can serve many purposes, including: a) Requesting objects (e.g., through pointing) b) Establishing or maintaining social contact (e.g.,

offering a toy to play with or pointing to a nearby chair to ask a friend to sit there) Rejecting or terminating an object or event (e.g., holding up hand in a "stop" motion or employing the time out signal used in some sports) d) Expressing a body state or an emotion (e.g., shivering and crossing one's arms to indicate being cold or giving a high fives with a peer.

These examples are conventional gestures, which "convey specific meaning according to conversation agreed upon by learner's society and culture. Sign Language. While gestures are not language symbols, manual signs are. There are several different sign languages, such as Indian sign Language, American Sign Language, British Sign Language, and Japanese sign language. Each has its own signs and its own rules of grammar. Sign language is predominantly used with children with hearing impairment. Signing systems: Signing systems are also used generally for communication with persons with hearing impairment, since sign languages are quite different from spoken languages; signing systems have been designed to allow simultaneous signing and speaking. Each of these systems follows the grammar and word order of the spoken language it is designed to parallel. Thus, signing systems are not separate languages.

Points to remember

• The goal of AAC instruction is functional communication in a variety of natural settings, with a variety of partners and for variety of purposes. While this goal requires teaching technical aspects of AAC skills and assuming the individual will be able to use them when needed, interventionists teach the communication skills needed for daily interaction.

• Given the goal of functional communication and concern for generalization and spontaneity, communication must be taught during daily routines and activities in the sites where it normally occurs. Analysis of natural context should point to actual and potential communication needs, partners and naturally occurring cues and consequences

• Communication skills may be embedded within other activities, for instances, in a task analysis on playing grip ball, a step such as "say good catch" could be embedded. With the expected communication behaviors being thumbs- gestures, a brief vocalization, and a smile. Likewise, a task analysis on reporting to work could be expanded to embed a step such as "check to see if there are any special jobs today". The student would be taught to approach the supervisor with wallet — sized card containing the written message Is there any change in routine today?". Many daily routines provides

opportunities for embedded communication such as asking a peer to help open ketchup packet at lunch,

• Whether embedded in to other tasks or made in to separate routines, communication skills must be learned in real and meaningful natural context.

• Successful augmentative and alternative communication (AAC) services require a collaborative team approach, involving the individual who requires AAC, their families, and members from various professional disciplines ,It is often unrealistic to assume that all AAC services will take place with the client and all professionals present at the same time and location. Effective communication between team members is thus required, to enable this, AAC team members must not only be comfortable with their own roles but they must also become acquainted with the roles of other team members. This ensures that team members receive information pertinent to their specific roles in an appropriate, timely fashion, thereby maximizing the quality of AAC services.

3.6 Teaching Strategies:

There are some special teaching strategies for children with mental retardation. Due to less capacity of intellectual functioning the teachers have to employ various teaching strategies and techniques for their teaching. Task analysis, prompting and fading, Chaining etc. are most common strategies for them-In addition to reinforcement techniques (used for learning) are much effective for their skill development.

3.6.1 Task Analysis

All mentally handicapped children learn easily through small steps. Instead of teaching a behavioural objective as a whole, the teacher can split it into several small steps. Each step can be tAef:rtaught one at a time, until the child reaches the specified behavioural objective as a whole.

Task analysis is simply the procedure of teaching a behavioural objective in small and simple steps to a child. The procedure of task analysis is especially useful in simplifying teaching activities of daily living and motor skills for children with mental handicap.

How to decide about the steps for task analysis

1. Observe a competent person doing the task and note down the steps involved in performing the task.

2. The teacher can perform the task herself and note down all the steps involved in completing the task.
3. The teacher can think about the steps involved in the task and note down the steps.
4. The teacher can ask other competent persons and note down the steps. Characteristics of task analysis.

The following are some of the important features in the procedure of task analysis for teaching children with mental handicap :-

1) In some ways, task analysis is a process of discovering the correct amount of physical prompts, verbal prompts, or clues necessary at each stage of teaching a behavioural objective for the given child.
2) Since each child is unique, it is not possible that all children will learn a given behavioural objective with the same number or sequence of steps in the task analysis to reach a given behavioural objective. Some children, for example, may require a few steps to reach the behavioural objective, while others may require more number of steps to learn the same target behaviour. It is important to individualise the task analysis separately for each child depending upon his or her special needs, abilities, and also the selected behavioural objective.
3) Another characteristic feature of task analysis is that it involves broad steps of split up activities in order to reach a behavioural objective. Each step within a task analysis is sequentially linked to one another. The performance of one step in the link will signal the performance for the next step. It is important to note that sometimes a sequence may not be followed too depending on the difficulty level and the needs of each child with mental handicap.

Steps in task analysis

The following steps are to be used in developing task analysis for any behavioural objective :-

Step 1 - Identify the target behaviour or behavioural objective for teaching a child.

Step 2 - Break up the behavioural objective into as many small steps as you feel appropriate for the specific child.

Step 3 - Try and keep the break up of each step in the task analysis, simple and small enough to attain in short time by the child.

Step 4 - Arrange the identified steps in the task analysis in a sequential order that the simple steps are placed before the more difficult ones.

Step 5 - Observe or make the child perform the various steps on task analysis and discover the step at which he can perform the specified task. Then, begin teaching the child from that step and gradually move further to train him in the remaining steps until he reaches the target behaviour as a whole.

An example of task analysis for a typical behavioural objective is given.

Example :-

3.6.2 Behavioural Objective :-

"On instruction, Suraj will put on a shirt correctly eight out of ten times by himself before the end of this month".

This task is analysed as follows :-

Step 1 - will hold the collar of the shirt with left hand.

Step 2 - Suraj will insert right hand into right sleeve.·

Step 3 - Suraj will hold the collar from back and bring it to the left side with left hand.

Step 4 - Suraj will insert left hand in left sleeve.

Step 5 - Suraj will insert left hand in left sleeve.

Step 6 - Suraj will fold the collar.

3.6.3 Chaining :-

Many complex behaviours can be taught to mentally handicapped children, if they are broken down into small and simple steps. These steps can then be sequentially linked with each other to form a chain. Where each step is taught separately and sequentially until the whole behaviour is learned, this method is called chaining.

Chaining method can be used in two ways i.e. forward chaining and backward chaining. When the last step is taught first and the first step is taught last, it is called as backward chaining. When the first step is taught first followed by later steps being taught last, this procedure is called forward chaining.

The steps in the forward chaining and backward chaining are explained for the following behavioural objective "put on elastic pant".

Forward Chaining

Task: Puts on a pant with elastic waist

Steps Sub-tasks Steps Sub-tasks

1 Holds the Pant by both hands

1 +2 Holds the pant with both hands and puts one leg through

1 +2+3 Holds the pant and puts through both the legs one after the other

1+2+3+4 Holds the pant, puts through the legs, pulls pants upto knee

1 +2+3+4+5 Holds the pant puts through the legs, pulls upto knee and then to the hip

1 +2+3+4+5+6 Holds the pant, puts through the legs, pulls upto knee, then to hip and waist.

Backward Chaining

6 Pulls the pant up from the hip to the waist.

6+5 Pulls the pant up from knee to hip and then to the waist.

6+5+4 Pulls the upto knee, then to hip and then to the waist.

6+5+4+3 Puts one leg through pulls pulls pant upto knee, then to hip and then to the waist

6+5+4+3+2 Puts both the legs through, pulls the pant upto knee, then to hip then and then to waist

6+5+4+3+2+1 Holds the pant with both hands, puts the leg through pulls it upto knee then to hip and then to waist.

Guidelines for using chaining :-

1) Describe each step in the chain that are to be followed so as to reach the target behaviour.

2) Suppose a behavioural objective has been sequenced into five steps, initially begin teaching by establishing a link between the first two steps alone.

   Then, proceed to link the first two steps with third step. Still later, develop links between the first three and the fourth step until, eventually one can reach the behavioural objective.

3) Use rewards to strengthen the behaviour at each step or link in the chain towards the behavioural objective.

4) Preferably use backward chaining procedures when teaching self help skills to mentally handicapped children.

5) It is better to teach the child to perform the steps in the order in which they are listed in the chain.

6) Move to the next step in the chain of behaviours only after the child has learned the proceeding step in the link of behaviours towards the behavioural objective.

3.6.4 Shaping

To teach a new behaviour to mentally handicapped children which they might have never performed before, the teachers should wait for target behaviours to occur on their own, then they may have to wait for a long time. Most behaviours in mentally handicapped children may occur only after a long time. Therefore, it is important to start teaching a new behaviour to the child in small steps and keep him moving closer to the target behaviours by rewarding even minor changes towards the final behavioural objective.

Use of shaping method in teaching mentally handicapped children prevents frustration in the learner as well as the teacher. Teaching becomes more pleasurable for the child in particular as he is able to earn rewards even for minor success achieved by him.

For example, if a child is unable to say "Water" and the closest sound he can make is "Wa-Wa", then shaping may be used change "Wa-Wa" through a sequence of steps into "Watah" and finally "Water".

Similarly, to teach a child to kick a ball in the required direction, you may begin rewarding even if the child stands near the ball. Gradually, you can shape the child's behaviour by rewarding at the end of every step, such as, when the child gets closer to the ball pushes the ball with his foot in any direction, kicks the ball in any direction and eventually, kicks the ball in the specified direction.

Steps in Shaping Process

1) Select the target behaviour.
2) Select the initial behaviour that the child presenting performs and that resembles the target behaviour in some way.
3) Select powerful rewards.
4) Reward the initial behaviour till it occurs frequently.
5) Reward successive approximations of the target behaviour each time they occur.
6) Reward the target behaviour each time it occurs.
7) Reward the target behaviour now and then.

Example of Shaping Process

1) Choose a behaviour that the child is already doing in some form or other. If the behavioural objective is to teach the child to draw circles and the child is able to hold pencil and scribble on paper then you can use shaping to teach the behaviour.

2) Begin by working with the child at the level he is able to perform and reward him. This will help child to learn that his behaviour leads to reward. For example, when the child scribbles, reward him.

3) In order to teach a small improvement over what the child can already do, you can now teach him to make circular motions. This is not a perfect circle, but it is at least closer to a circle. Do not reward the child for scribbling any more. Only reward him, when he makes circular movements.

4) When the child has consistently learned to draw circular movements, change it to the next closer step, such as, spirals. Stop rewarding him for circular movements. Reward him now when he draws spirals.

5) When the child has consistently learnt to draw spirals, then take him to the next step which is closer to the objective of drawing a circle. For example, reward him now only for drawing circles even though they are still not perfect circles.

6) Keep working at it until the child reaches the behavioural objective of drawing a circle. Guidelines for using Shaping Techniques Effectively

1) Always use shaping techniques in combination with other techniques for teaching behaviours, such as rewards, prompting, chaining, modelling, fading.

2) The important feature about using shaping techniques is to build mini steps towards the final target behaviour. Plan the size of the steps carefully. They must be neither so large that the child will fail to reach one step after another, nor must they be so small that a lot of time is wasted by going through unnecessary steps.

3) At any time in the shaping process, be prepared to alter the size or distance between the steps depending on the actual performance of the child.

3.6.5 Modelling:-

Either knowingly or unknowingly, most of us acquire many behaviours through modelling and imitation. Children learn many behaviours by observing others deliberately or by chance. They imitate bahaviours of persons who are considered important in their view, such as, their favourite teacher, parents, friends, Film/TV star, etc. While teaching new behaviours to children, if teachers can use modelling in a

systematic manner, it can become an effective way of changing/teaching behaviours within the school/classroom settings. Begin teaching new behaviours by showing children how to perform that behaviour, and if the child imitates, you are using modelling. Modelling can be used to teach new behaviours or to correct the performance of an already learnt behaviour to the child.

Modelling does not mean comparing the performance of two or more children. Many children do not like themselves being compared with other children. It may even lead to negative feelings like jealousy, anger, etc.

Teachers should never use instructions which mean to compare behaviours of children. Statements that teachers should avoid using,

"Be a good boy, like your friend Rohit!"

"Look at Sarita colouring the picture book. Come on,

Anu! Why don't you do the same?"

"Mohan! Can you copy down the numbers silently like Raju?"

Modelling involves creating a situation in which the child naturally observes other children indulging in target behaviours and getting rewards for that behaviour.

This will make the child to repeat the same behaviour and earn rewards.

Guidelines for using Modelling Techniques :-

1) Make sure to get the child's attention on every detail of the model, possibly, even by using verbal prompts along with it. For example, Teachers can demonstrate the use of a pair of scissors by pointing (gestural prompt) to where the fingers go, how to grip tight or loose, etc.
2) Choose a model that is appropriate for the age, sex for the child. The children generally identify themselves better with the model's which are of their age and sex. The mode should be proficient in doing the task for which you are going to use him or her.
3) Provide opportunity for the child to observe the model's behaviour before he can imitate the same. Some children may need a long time or more number of trials to observe the model completely and clearly.
4) Get the model to show the target behaviours clearly in front of the child.

Demonstrate each part/step in the target behaviour slowly and clearly enough for the child to model it.

5) If the demonstration involves a series of steps, divide the model's performance into small and convenient parts. Each step or part can be modelled and taught separately until the child learns to perform all the steps.

6) Before beginning to use modelling techniques, ascertain if the child is developmentally and intellectually ready to imitate the model. There may be some behaviours which may not be easily imitated by some children.

3.6.6 Prompting

Almost everyone requires guidance, instruction, assistance or help while learning an activity or skill. In case of mentally handicapped children, they need more help or assistance than normal persons of their own age.

Types of Prompt

Each child with mental handicap shows different levels of performance for any given behaviour. Based on the current level of performance, there are three broad categories of prompts that can be identified for use in teaching or training these children.

a) Physical Prompt

For completing a task some children require complete manual or physical assistance. The teacher may have to initially hold the child's hands, or other body parts to teach him specific behaviours such as buttoning, writing with pencil, skipping.

Physically prompts are usually needed at the beginning of teaching a new behaviouf. This procedure demands that the teacher is physically very close to the child, in order to provide physical help. Always combine physical prompts with the due of verbal prompts.

b) Verbal Prompt

Some children may need only verbal statements describing every step of the behaviour that is required to be performed in order to complete the task.

For example, in teaching unbuttoning, the teacher may have to tell the child, "Hold the button in your hand ... Hold the edge of the shirt with your other hand ... Pull away the button from the hole .. ", etc. In this case the teacher is using prompts before the occurrence of every step until it leads to the target behaviour.

In using verbal prompts, the teacher needs to give verbal instructions. There is no direct physical contact between the child and the teacher during the teaching process. Usually

teachers can shift in using verbal prompts after the child has gone through the initial stages of learning the new behaviour with physical prompts.

C) Clueing :-

Some children require only verbal hints (example, "open", "close", "zip", "push", etc.) or gestural clues (example, pointing signals to stop, shaking fore finger to imply "no", egc.) to help them perform a behaviour.

For example, a child can taught to name fruits from pictures. After showing the appropriate picture, the teacher may help the child by saying ‘‘Man...’’ or "pie ... " (meaning to prompt "Mango" or "Pineapple"), and leave it to the child to complete the naming of a fruit.

Sometimes clues can be in the form of reminders or questions. For example, when the child is learning to name a list of five modes of transport and recites only four, the teacher can give a clue, "Remember, How did you come to school this morning?" (Meaning to help the child to say 'scooter' or 'motorcycle' .) Towards the end of teaching a behaviour, the teacher usually reduces prompts whereby the child conducts the activity independently.

Guidelines for selecting and using prompts :-

1) Make sure to secure the child's attention before giving or using prompts for teaching a behaviour.
2) Always provide prompts only before the child performs the target behaviour.
3) Use prompts only if the child is unable to perform the desired target behaviour in the manner it should be done.
4) Be brief. Always make prompts as short as possible.
5) Select as natural prompts as possible. Which ever type of prompts are used, it should be always in a language that the child can understand. This is more applicable while using verbal and gestural prompts.
6) Select prompts that will quickly lead the child towards independence in acquiring the target behaviour.
7) Wherever necessary combine use of different types of prompts to achieve maximum effectiveness in teaching.
8) Fade prompts as soon as possible. Gradually decrease the use of physical prompts, as the child learns to perform a target behaviour, then verbal prompts and clues-in the same order, till the child becomes totally independent.

3.6.7 Fading :-

While using prompts for teaching it is important to gradually decrease the amount of assistance or help being given to the child. The ultimate goal of teaching is to make the child independent in the performance of the specified behavioural objective/s.

In the initial phase of teaching a new behaviour, the teacher may do more and more of the task as the child does less and less of it. However, as a child learns to perform the target behaviour, the teacher must do less and less and allow the child to do more and more of the task by himself. In the given example the child has to trace the alphabet 'A' on the dark line. Then slowly, the alphabet is faded and finally the child has to write by himself. While teaching new skills, the teacher needs to use rewards continuously, i.e., every time the child completes the task such as, every time the child buttons his shirt with or without help the reward is given. Once the child has learnt the task, the rewards need to be gradually faded. In other words, the child does not receive rewards after completion of the task each time, but only now and then or occasionally.

3.6.8 Reinforcement

Every action has some consequence. When our behavior results in desirable consequence, it serves as a motivating force for the behavior. The natural process of getting desirable consequence if not sufficient to maintain the desirable behavior more powerful consequences need to be provided for motivated learning. It is a very important component of attempt to teach new behavior and to increase occurrence of existing behaviour. It is also helpful in maintaining appropriate level of the behavior.

There are two types of reinforcement. which are widely used in teaching person with mental retardation.

a) Positive Reinforcement

In positive reinforcement the reinforce is provided after a particular desired response has occurred. Here the reinforcer increases the probability of occurrence of the behavior again in similar situation.

Technically positive reinforcement refers to the process of presenting the stimulus as consequence of a response that result in an increased probability of that behavior in future. It is the contingent presentation of a stimulus, immediately following a response that increases the future probability of the response.

b) Negative Reinforcement

Firstly, the stimulus is present prior to occurrences of the particular response. Secondly,

the response removes or withdraws the stimulus, resulting in increase signs of the probability that the response will occur. Technically negative reinforcements refers in removing an aversive stimulus as a consequence of a response resulting in an increase in the rate of occurrence of a response. It can also be defined as contingent removal of an aversive stimulus following a response that future rate or probability of the response.

Types of Reinforcers

a) Primary Reinforcers - Primary reinforces have biological importance to the individual. They are highly motivating to the student and work very effectively with children having mental retardation. Food and drinks are very common primary reinforces widely used for younger or low functioning student. They have high motivational value and quickly effect the behavior.

b) Secondary Reinforcers - Primary reinforcers are temporary measure as we want students not to be dependent on them. There are various types of secondary reinforcers widely used in special education setting. Secondary reinforcers include social stimuli such as praise or favourite activities. Attention, words, smiles, gestures, a pat on the back are called social reinforcers which are most natural and readily available or enjoyable activities which a student may choose like playing a particular game, working on computer, painting etc. Secondary reinforcers do not have biological importance, their value has been learnt or conditioned in due course of time. Most often secondary reinforcers are also called conditioned reinforcers.

c) Tangible reinforcers are those which are of immediate use to the individual. Eg, pen, pencil, toys, objects which have achieved reinforcing properties such as stars are also tangible.

d) Exchangeable Reinforcers - There are reinforcers like token, money stickers etc., which may be exchanged for other more valued secondary reinforcers.

Primary and secondary reinforcers can be used in a combination and try to gradually reduce the dependency of the child on primary reinforce. This is called pairing. Through pairing we gradually condition the child to be reinforced by the secondary reinforce only.

Privileges are also widely used as reinforcers. Display of good work, appointing student as monitor, appointing student as monitor, appointing team captain are widely used privileged rewards.

e) Generalized Conditioned reinforcers - When a reinforcer is associated with a variety of behaviours, it is termed as generalized conditioned reinforce. Another type of

generalized reinforcer includes those data exchangeable for something of the child's interest, like money which can give access to food, shelter, clothing, other materials etc.

f) Token Reinforcer- Token can be used as a symbolic representation of money in various situations. Tokens are exchangeable for a variety of primary and secondary reinforcers. It can be effectively used with a single child or with a large group also. Token reinforcement system requires two components the tokens and backup reinforcers. The token is delivered immediately after the desired behaviour. Button, stars, paperclips, metallic pieces etc., can be used as tokens. Tokens should be portable, durable and easy to handle.

Steps for Implementation of Token System

- Decide target behavior.
- Demonstrate target behavior clearly and ensure understanding by the student.
- Decide tokens
- Frame rules for receiving the tokens.
- Fame rules for the exchange of tokens
- Plan reward menu and display in the classroom
- Implement the token system with firmness.

Initially provide immediate tokens and allow immediate exchange. Slowly increase duration. Gradually shift to intermittent schedule of giving tokens. Re schedule and revise the reward menu after certain intervals.

Selecting effective reinforcer - The selection of effective reinforce can be done by asking the child, observing the child, asking the parent. A list of reinforce, in order of preference, can be prepared.

Basic principles of reinforcement delivery system :

- Reinforcement can be given only for desirable behaviour
- Provide reinforcement immediately after desirable behavior
- Reinforce target behaviour each time in the initial stages
- After achievement of the target behaviour use intermittent reinforcement
- Pair tangible reinforcer with social reinforce for other secondary reinforcers to fade tangible reinforcers gradually.

Schedule of Reinforcement

1. Continuous schedule of reinforcement : Schedule of reinforcement refers to the pattern of delivery of reinforcement. When a reinforcement is given on continuous basis, it is referred to as (I continuous schedule of reinforcement" where a student receives immediate reward after every target response / behavior. This is very necessary for lea ring a new behavious.

2. Intermittent schedule of reinforcement : Following continuous delivery of reinforcers for prolonged periods may lead to dependency. Hence intermittent schedule has to be followed. Here reinforcement follows some appropriate response. Behaviours maintained for afonger period.

   Two types of intermittent schedules are used:

   Ratio Schedule: Here the number of times target behavior occurs decides the timing of reinforce delivery. In fixed ratio schedue4, the child is reinforced for a specified number of correct responses. In variable ratio schedule, the target behavior is reinforced on the average of a specified number of desirable responses.

   Interval Schedue: Here specific amount of time determines the delivery of reinforce. Under fixd interval al schedule, the child is reinforced after some fixed interval of time. Under variable interval schedule, the duration / intervals are to different lengths. (The average length is consistent).

3.6.9 Role Play Method

The popular teaching technique is Role Playing method. It is applicable in many form of education from the primary level of elementary school to the upper classes. Role pay highlights elements of spontaneous of least extempaneous reaction in education. Role Play may be defined as the way one behaves in a given position and situation. It is a teaching methodology is the conscious acting out and discussion of the in a group. In the classroom a problem situation is briefly acted out so that the individual student can identify the characters. It points up the dynamics which can accompany this teaching methodology. Small group in the class had been assigned to demonstrate various teaching method. The group in role playing set up a situation in which one member played a certain role and other have to react on the specific role or some definite role. It Can be used with students with most ages. A complexity of the role situations must be minimised in using the method with children. The responses and the dialogues create a dynamic learning situation which will not forget soon. Role-play allowing free scholar to make mistakes in a non threatening environment. It also fulfil some of the very basic principles

of the teaching learning process such as learning involvement and intrinsic motivation. The involvement in role playing can create both an emotional and intellectual attachment to the subject matter at hand. If a skillful teacher accurately matches the problem situation to the needs of his/her group solving of realistic life problem can be expected. It also create a sense of community in class.

But some may react negatively to this situation and insecurity may occur. In-effective performance of the member or mishandling may create dissatisfactory outcome. This is also a time consuming method or process.

Principles of Effective Roleplaying

Role playing is based on the philosophy that a human being is best changed through direct involvement in a realistic life related problem situation rather than through learning about such situation from others.

To change the said concept, a district organisational pattern is needed.

1. Preparation -

a) Define the problem

b) Create readiness for the role

c) establish the situation

d) Cast the character

e) Brief and Warm up

f) Consider the training

2. Playing-

g) Acting

h) Stopping

i) Involving the audience

j) Analyzing the discussion

k) Evaluation

The teacher must identify the situation clearly so that both the character and the audience understand the problem at hand. The audience is just as much involve in the learning situation as the actors are. In the analysis and discussion time the audience should provide possible solutions to the realistic problem situation.

It is important to evaluate the role playing in the light of the prescribed goals. Evaluation should proceed on both group and personal level.

3.6.10 Play way Method

Play activity is an integrated part of the developmental process in young children. It occurs spontaneously in children and serve an important medium for informal learning. Dr. Lynn Barnett advocated playas a percussion to creativity and abstract learning The major aspects of play are

1. It is spontaneous and voluntary
2. Play gives enjoyment.
3. Most of the children actively involved
4. Passive involvement is also present
5. Less parental supervision is present.

Stages of Play -

1. Pre symbolic play - In the first year of life transition from visual to manipulative exploration of objects and from stereo typical to functional play. At the age of 12 months the interest in object attract the child's interest. In this stage the play behaviour changes its characteristics.
2. Symbolic play - In between 18 months the use of of symbolic representation in play increases and shows the flexibility of child's thought process.
3. Elaboration of symbolic play - In between 2 years children acquire the capacity to use symbolic objects and begin to use imaginary object to symbolize absent objects.

Play as a Learning Activity - There are three type of learning activities -

1. Sensory motor activity - Co ordination, Peg Boards, painting etc.
2. Socialization - Interaction between peers in early ages constitute the code of conduct
3. Self Actualization - They become fully functioning human being capable of awareness of environment and responsiveness to other human beings. Child can be able to make to feel effective in the family in the environment.

3.7 Development and Use of TLM FOR ID

The children with mental retardation have less cognitive ability, poor motivation to learn. So for better learning experience multi sensory modalities can be used to make learning activity more interesting and purposeful. To do so, developing and use of proper TLM must be introduced by the teacher which will be helpful to achieve the objective of learning and the process to reach the goal properly

3.7.1 Teaching Material

Teaching material is very much helpful for the student with mental retardation. Their learning can be meaningful and it remains in their mind for a long period of time with the help ofTLM.

Teaching material is a term used to indicate text books, lecture notes, lesson notes, and references and so on. It is prepared by experts in the field.

Teaching aids are the materials that enhance the presentation of information using the visual and auditory input and sometimes the tactile input too. For example, charts, video clips. Audio cassettes or CDs, models, film strips, and so on. It can be prepared by the concerned class teachers any trained teacher, or can be purchased from commercial agencies.

Teaching appliances are the materials like over head projector, rulers, stop watch, tape recorders, and so on.

3.7.2 Teaching learning material (TLM)

TLMs are those materials other than the text books that the teacher uses to transact curriculum content so that the teaching by her and the learning by the students proceed smoothly, effectively and spontaneously. TLMs totally support the curricular transaction in all the classes right from preschool to higher education in general as well as special education, keeping the student in focus rather than the teacher in focus.

3.7.3 Types of TLM

There are different types of teaching aids, which can be used by the special teachers in classroom. Some of them are as under :

1. Visual Aids
    a) Blackboard
    b) Charts, pictures

c) Models film strips

d) Motion pictures

e) Slides film strips

d) Motion pictures

g) Bulletin board

2. Audio-Visual Aids

a) Slide projector

c) Over head projector

e) Film projector

g) Radio

i) Television recorder/ player

3. Activity Aids

a) Museum

c) Garden

e) Workshop

g) Fairs

d) Motion pictures,

f) Motion pictures,

b) Magic lantern

d) Epidiascope

f) Gramophone

h) Tape recorder

j) Video cassette

b) Aquarium

d) Kitchen

f) Laboratory

h) Exhibitions

3.7.4 Need for TLM

As the students with mental retardation have limitations in intellectual functioning, short attention span, concentration, and poor memory, the training which is heavily based on oral instruction does not support them in learning. They require a training which can provide input through various senses as much as possible. In addition to auditory and visual senses the other senses also should be included in the training process. It can be achieved through effective teaching learning materials because it p rovides multisensory learning experience to students with mental retardation. Advantages of using TLMs The major advantages ofTLM are as follows

- It helps in creating interest in students with mental retardation in learning a particular skill. The attractive and appropriately coloured Teaching Learning Material catches the attention of the student with mental retardation.
- For the motivation of the students with mental retardation in learning TLM is also needed.
- With the help of teaching learning materials the learning become more meaningful anthe learned concepts remained for long period of time in their memory.
- A large group of students can be handled easily by a teacher with the help of teaching learning materials.
- With the help ofTLM abstract concepts can be concretized better.
- It helps in reducing the energy and time spent by a teacher in explaining the concepts verbally.
- TLM increases the participation of students with mental retardation in the classroom activity.
- It makes use of all sense organs of students. It also provides multisensory learning expenence.
- The TLMs help in transfer of learning.
- It sustains the attention of the students for a relatively longer period of time.
- If well utilized, some of the TLMs can help in improving critical thinking and problem solving abilities which children with mental retardation lack.
- TLMs used for mathematics has a direct relevance and application to daily living and the transfer of training is minimized.

3.7.5 Effective use of TLM

Effective use of TLM depends on the following factors

Knowledge about hierarchy of concept development Teachers should be aware of the hierarchy of concept development, principles of teaching and the basics of all-round development of a child. For example, the steps in training any concept involves matching, identification and naming, It should be taught in the same order. Changing the order of steps will hinder the process of learning. The training should move from concrete to semi concrete, and to abstract. It can be done effective with the help ofTLM.

Novel ways to use the TLM the children with mental retardation have less cognitive deficits due to which they learn at a slower pace, have poor retention ability and are unable to transfer the learnt skills easily to another situation, the TLMs must be carefully selected and used with them. In order to avoid monotonous teaching and students getting bored, teachers have to think of different ways to use the same teaching learning materials. The teacher needs to be innovative, be clear in the objective and be prepared in advance while using a TLM. It is proved that children with mental retardation learn better thorough games and activities. TLM should be used in the form of activities and games. For example, the colour flash cards which are used for teaching colour concept can be used to play card games and memory games.

TLM for different curriculum levels

We have seen that the TLM used should be age and level appropriate. Therefore, based on the curricular objective for the children in each group a range of material will have to be used to aid the curricular transaction effectively. Children who are in the age group of 3-6years are in the preprimary level. The curriculum for pre primary level is mainly focused on the motor, self help, social and language skills. So the material prepared for training children in this level should be mainly aimed to improve the above said skills. As they are lower age group children the material should be colorful, attractive, soft in texture, and should be appropriate in Size.

(Children in the age group of 7-10 years are at primary level. The curriculum in this level basically focuses on personal skills, communication skills, social skills, functional academic skills, motor skills, and pre-vocational skills. It is an extension of pre-primary level; the skills are higher than pre primary level. The materials for training in functional academics are important at this stage. Many of them are learning aids as in flash cards, picture books and so on.

The secondary and prevocational levels are the extension of primary level. As the children in these levels are of in the age group of 11-14 years and 15-18 years respectively the

material used in lower levels are not age appropriate for them. Also according to the changes in the curriculum content the material should vary.

Learning aids and functional aids as its name indicates learning aids are used for 'learning' a particular concept and teacher uses it specifically for instruction. Once the students learn the concept, the utility of specific learning aids ceases. Example for learning aids are models, charts, pictures. A functional aid is one which enhances the 'functioning' of the child in daily living activities. A functional aid has use even after student learns the concept. Without functional aids a child with limitations in functioning will not be able to perform the particular activity. For example; grasping adaptations in utensils, dressing adaptations, and motor adaptations are functional aids.

A picture album of common grocery used at home is used as one of the learning aids with students in the classroom. Once students learn to name common things, it may not be necessary to use picture album as an aid. But in case of non-verbal students, it is continued to be used as it facilitates their communication. Then the same aid becomes functional aid.

Selection and development of teaching material and aids Selection and development of teaching material and aids is the primary responsibility of the teacher. It should be done by keeping the following principles.

Age appropriate; Children with mental retardation need to be trained in age appropriate activities, irrespective of their mental age. For such training, material also should be age appropriately used. For example, in order to teach counting to a child in the primary class we may use beads. But with a child in the pre-vocational level we have to use the materials such as domestic items (cups, spoons, bottles, vegetables and fruits) or packaging items (number of cartons/boxes) may be more meaningful. Easily improvised by teacher: Depending on the situational demand teacher should he able to make the necessary modification and improvise the particular TLM.

- **Minimize transfer of learning:** A child with average or above average intelligence does not require extra training for generalizing the learned concept to the life situations. But a child with mental retardation requires the extra training for this. A child with average or above average intelligence is able to use the arithmetic concept learned in the classroom to his daily life whenever he/ she is required to use it, like while shopping, or travelling. A student with mental retardation requires training in a shop or bus travel situation in order to use the same arithmetic concept learnt in the classroom. So the material selected should minimize the need for transfer of learning which prevents the wastage of time, and energy. For example, in order to

train a child in money skills instead of using duplicate rupee notes use the original money coins and rupee notes. Wherever possible the TLMs should be materials that are naturally used in the given situation rather than simulated ones.

- **Attractiveness:** Attractive materials will help to get and maintain the attention of the child on the task and increase the motivation to learn a concept. In addition, depending upon the aid, where appropriate, the materials should be symmetrical; specially whenever materials are prepared to train on mathematical skills like shapes it should resemble the original one. For example, if you are making a TLM to teach shape 'square' the material should be exactly a 'square' with all angle at 90 degrees. If the aids have written script. it should all be of same size and uniform.
- **Suited to the level of learners:** TLM should be appropriate to the ability, achievement and aptitude levels of the student. Children with mild mental retardation have higher cognitive abilities compared to children with moderate, severe and profound mental retardation. Therefore, the material prepared for all level should be appropriate to their need and the objective chosen. Materials for children with severe and profound mental retardation should represent the fact in simpler form.
- **Cost effectiveness:** TLM should be worthy of the cost paid. For example, a TLM which can be used for training a number of skills, multiple utility, is cost effective than the one which can be used for training only one concept. Never the less, some aids are meant to be used for a learning single concept. So care must be taken to see if a concept can be taught using a material that is relatively cheaper and durable and will serve the purpose. The best way to do this is to make a market survey, be clear on what you wish to teach, look at varied material and choose the one that will help in achieving the objective and cost effective.
- **Novel:** Every day there are new materials coming into the market. Novel material catches and maintains the interest and attention of children better than common ones, so a special educator should have novel thinking while preparing or selecting TLM. While selecting, the teacher has to think of its utility in the long run, usability by the student, maintenance related issues and affordability. Novelty should not be at the cost of quality.
- Multi sensory utility: A TLM should provide opportunity to use as many senses of the student as possible to make the learning more meaningful. Audiovisual aids provide the multisensory learning experience to children. o Durability: A TLM which lasts for a long time without breaking or getting weaker is a durable one.

When children with mental retardation explore the material it may fall down or may twist or fold. If the material is made of breakable material like glass, and thermo cool sheets or with thin materials like papers: it may break or damage.

- **Nontoxic:** As children may put the material in the mouth, it is important to see to the quality of the product of which it is made. If it is a painted material, it should be nontoxic. Many materials are washable. It is good to buy them as after handling it can be washed and stored for future.
- **Maintenance free:** It is no use buying a material that needs frequent maintenance. Some times, some electronic items are stored in cup board as it is either to be repaired or does not have battery. It is a waste to possess such aids

  Accessible: A good TLM should allow the child to explore it freely and learn from it **Role of Special Educator in Making Teaching Aids**

- Waste and used material of the class, school, teacher's home, student's home etc., can be effectively used for making various teaching aids.
- The children of the class may themselves be motivated and involved in search of waste material and preparation of aids.
- Planning and preparing of teaching aids not only helps in learning the concept but also add to development of fine motor skills, eye hand coordination, prevocational, communication and cognitive skill.
- The person with mental retardation shall be motivated, develop confidence and have feeling of well-being by involving themselves in such activities.

  The teacher must be observant, keen, motivated, creative and have scientific and artistic temperament to make teaching aids and make it a habit or a regular affair of teaching learning program.

Referral sources to procure teaching materials, aids and appliances

Any shop selling educational material can be a good source of TLM. Nowadays there are various agencies which prepare teaching learning materials for children with disabilities. Most of them are attractive, durable, and novel ones. But it is the sole responsibility of the teacher to select the appropriate one by considering the factors which we have discussed earlier. A teacher has to make use of her creativity blended with the technical competencies in selection, preparation, and wise use of TLM for effective curricular transactions.

3.8 Let us Sum-up

Students with Special and Exceptional needs are placed in inclusive learning environments more frequently than the past. For general education with a limited special education background, this can often be anxiety provoking and stressful. Every teacher wants to provide the best instruction and education to his students. The following five strategies may be made useful for working with students in the inclusive settings.

1. **Get to know your Students' IEP:** One of the most common accommodation for students with special needs is preferential seating.
2. **Implement Universal Design for Leering(UDL):** Universal Design is so much more than one of the hottest buzzwords circulating around education circles. It's an approach to curriculum planning and mapping that makes learning engaging and accessible to a wide range of learners with different strengths and needs.
3. **Support Important Life Skills:** Student must be exercised with the essential life skills in school environment and as teachers we have to extend support to the learners to acquire such skills. Practice like "Study Skills Thursday" may be very much effective when students clean out their backpacks, organize their binders and notebooks and focus on developing and self-reflecting on both short and long term goals. Even, locker checks with some students may be useful. The battle is half won if a student comes to school organized and prepared.
4. **Engaged in collaborating Planning and Teaching:** No class room is an island, especially in inclusive classroom. Opening up of classroom to service providers, paraprofessionals, special education teachers and parents give valuable opportunity to participants in collaborative teaching. Collaborative teaching looks differently depending on what school, level and setting one is working. So the teaching environments must be such when collaborative teaching is encouraged and celebrated.
5. **Develop a strong Behaviour Management Plan:**
   Having a successful inclusive classroom depends upon having control of the classroom. It is essential to have clearly communicated expectation and goals, that are accessible by all students. So classroom environment should be tailored to better suit diverse students' needs.

There are so may approaches and such approaches are in use globally and also discussed in detail in previous pages. Such practices and approaches need to be thoroughly understood and put in to use in the given situation.

T.L.M.

Teaching learning material is a generic term used to describe the resources teachers use to deliver instruction. Teaching materials can support student learning and increase student success. Ideally, the teaching materials will be tailored to the content in which they're being used, to the students in whose class they are being used and the teacher.

Teaching materials come in many shapes and sizes but they all have in common the ability to support student learning.

The need and usefulness of TLM do not require any further justification. A teacher may or not be so resourceful but can make his instruction effective by using T.L.M. So TLMs are in use across the globe and across the Subjects. In inclusive setting use of TLM becomes more effective. Previous discussion on TLMs and their uses must be helpful to the learners in classroom settings.

3.9 Check Your Progress

1. Define Learning. Write the different stages of learning.
2. Discuss different Principles of Teaching with suitable examples.
3. Write short note on
   (i) Montessori Method
   (ii) VAKT Approach of Teaching
   (iii) Alternative and Augmentative communication.
4. Define Task Analysis with Suitable example.
5. Discuss different teaching strategies for teaching children with Intellectual Disabilities.
6. Define Reinforcement, Discuss different types of reinforcement.
7. Write Short note on Schedule of Reinforcement.
8. Discuss Play way Method.

9. Define TLM. Discuss needs and emportance of TLM.
10. Write different types of TLM with suitable examples.

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Unit - 4 ❑ Intervention for Maladaptive Behaviour

Structure

4.1 Introduction

The behavior of living beings has always been a subject of curiosity and interest to the behavioral scientists. A behavior is considered as an aspect of the function of an organism. This may include the explicit expression of an action, thinking, emotional expression, physiological activities etc. These functions mayor may not be visible or observable for

another person. Sometimes the function of an organism could be due to the result of an external activity. Very many factors like genetic constitution, neurobiology, personality factors and environmental influences are attributed to the basic structure of behavior. Behavior modification is based on the principles of operant conditioning, which were developed by American behaviorist B. F. Skinner (1904-1990). Skinner formulated the concept of operant conditioning, through which behavior could be shaped by reinforcement or lack of it. Skinner considered his concept applicable to a wide range of both human and animal behaviors.

The simplest form of behavior has relation between a stimulus and a response. The quality of the expressed behavior has an influence of the intelligence of the person.

Though the function of the behavior is very much complicated, every individual is expected to behave in a manner, which is in tune with the accepted norms of the society or environment in which he /she lives. This expectation on the behavior is extended to the routine life pattern of everyday activity. This necessitates the individual to adapt himself to the requirements of present day functioning. This is termed as Adaptive Behaviour.

Adaptive behavior allows individuals to adapt in a positive manner to various situations. It is a functional adjustment to a particular behavior. Adaptive behavior creates a condition where the individual can truly develop and grow. In our day to day life, if a particular behavior is constructive and productive it can be considered as adaptive behavior.

4.2 Objective

After going through this unit you will be able to

- Define adaptive and maladaptive behavior.
- Demonstrate understanding of maladaptive behaviour.
- Narrate strategies for management of inappropriate behavior.
- Management of maladaptive behavior at home and school.

4.3 Definition and Types of Maladaptive Behaviour

4.3.1 Definition of Maladaptive Behaviour

Maladaptive behaviors refer to types of behaviors that inhibit a person's ability to adjust to particular situations. Maladaptive behaviors are never good because they prevent people from adapting to the demands of life.

Many times, children with mental handicap show behaviours that are considered as maladaptive behavior because of the harm or inconvenience they cause others, or to the child himself. The presence of maladaptive behavior interferes with learning in the school and classroom. Maladaptive behavior could be because of a number of reasons. Form the behavioural point of view it may be due to lack of communication skills, cognitive skills or problem solving skills. It may also be due to the wrong handling or the people in the environment of the child.

4.3.2 Types of Maladaptive Behaviour

Maladaptive behaviors in students can appear in countless ways. Some categories and examples are explained below.

- **Stereotypical Behavior** - repetitive movement, posture or utterance. Examples: hand play, rocking, echolalia (repeating words or phrases)
- **Ritualistic Behavior -** an attempt to regulate something concrete and controllable because the person cannot identify and control a problem - often manifests in compulsive behavioral.
- **Self-Injurious Behavior -** any behavior that can cause damage to the individual. Examples: head banging, self-biting, scratching. pica (consumption of inedible items)
- **Tantrums -** a combination of two or more maladaptive behaviors. Examples: screaming, crying, and dropping to the ground.
- **Aggression -** an act of violence to another person or object. Examples: hitting, kicking, biting. slapping, pinching, grabbing, pushing.
- **Transition Difficulties -** Some students become easi ly upset when asked to transition to a new area or task.
- **Running/Darting -** Running out of the classroom, away from the area, or away from adults.
- **Compliance/Following Directions/Opposition Lack** of cooperation with in structions/ dcm ands.
- Verbally Inappropriate Behavior Disruptive to classroom, peers or individual learning/success.
  Examples: name calling, swearing, screaming, whining, cr; ing
- **Hyperactive Behaviour**

4.4 Identification of Maladaptive Behaviour

Before a functional behavioral assessment can be implemented, it is necessary to pinpoint the behavior causing learning or discipline problems, and to define that behavior in concrete terms that are easy to communicate and simple to measure and record. If descriptions of behaviors are vague (e.g., poor attitude), it is difficult to determine appropriate interventions. Examples of concrete descriptions of problem behaviors are:

Problem Behavior	**Concrete Definition**
Ravi is aggressive.	Ravi hits other students during recess when she does not get her way.
Sam is disruptive.	Sam makes irrelevant and inappropriate comments during class discussion.
Rita hyperactive.	Rita leaves her assigned is area without permission.
	Rita completes only small portions of her independent work. Rita blurts out answers without raising her hand.

It may be necessary to carefully and objectively observe the student's behavior in different settings and during different types of activities, and to conduct interviews with other school staff and caregivers, in order to pinpoint the specific characteristics of the behavior.

4.4.1 Steps in identification of Maladaptive Behaviour

The behaviour modification technology for decreasing the undesirable behaviour involves a detailed assessment of the child in tune with the principle of developing IEP. The following steps are involved in this process.

I. **Identification of Problem Behaviour:** Once problem behaviour is brought to the notice of the teacher, it is his/her duty to identify it appropriately - by applying the guidelines given in this regard.

II. **Behavioural Description of Problem Behaviour:** In behaviour modification, symbolic terms of the behaviour has no value. Only behavioural terms are used for describing a behaviour. For example, the problem behaviour 'anger' can be viewed as, abusing somebody, shouting at others, beating others, or self-beating throwing things at others. Hence, by using the term 'anger' it is essential that the behaviour is described in an objective manner which could be observed and measured.

III. **Principle for Selection of Problem Behaviour:** A child may possess more than one problematic behaviour. But only one or two problems at a time is selected for management since, selection of more problems would pose difficulty in controlling the environmental factors which has influence on behaviour is done by applying the following criteria.

a) Choosing the problem behaviours which are easy to manage as this will help the teacher to gain confidence in managing more difficult problem behaviour later.

b) Choosing problem behaviours which are dangerous in nature for self or to others

IV. **Baseline Assessment (Observation Technique):** Observation is the process in which one/more persons observe what is occurring in some real life situation and pertinent happenings are classified and recorded according to some planned scheme.

There are four points for observation: a) What to observe, b) When to observe, c) How to observe, and d) Where to observe. Behaviour can be observed by direct observation or by automatic recording. Commonly used observation techniques are:

a) **Event or Frequency recording:** In the event or frequency recording, the number of occurrences of the problem behaviour is documented after direct observation for a specified period of time in a given day, which is repeated for a minimum of three days. This will enable the teacher/person concerned to get more idea about the behaviour under observation. This will also enable to find out the average occurrence of the problem behaviours like, beating, pushing, not sitting at one place etc. (the occurrence of the behaviours which could be counted in numbers). It is not appropriate for behaviours, where it is difficult to count.

b) **Duration Recording:** This is used to record behaviours which vary in its length of occurrence. For examples, not paying attention in the class (staring out, over active behaviour, rocking behaviour, etc. Recording of the behaviour is obtained by documenting for a specified period of time in given day, which is repeated for

a minimum of three days. The average duration of occurrence of the problem behaviour could be calculated for the specified period of time. This method is useful to record behaviours which vary in length. However, continuous attention is required for accurate assessment, which may not be always possible in group teaching set-up.

c) **Interval Recording:** Occurrence of the problem behaviour is observed in short span of intervals I ike, observing the behaviour in everyone hour for five minutes. It can be used for recording both frequency and duration responses. However, even if the problem behaviour occurs in between, the recording will be done only during the interval chosen for the same.

d) Time Sampling: The problem behaviour is recorded only at a predetermined time. For example, observing the behaviour of the child at every 30 minutes interval. This method is used when the frequency or the duration of the problem behaviour is more. It does not require continuous observation.

4.5 Functional Analysis and Behaviour Modification Techniques, Cognitive Behaviour Techniques.

4.5.1 Functional analysis

The term functional analysis was used by Skinner (1953) to denote empirical demonstrations of "cause-and-effect relations" between environment and behavior; however, the term has been extended by behavior analysts and psychologists in general to describe a wide range of procedures and operations that are different in many important ways.

Functional Analysis is the process of understanding the complexity of the problem behaviour in its simpler or most elementary parts. The problem behaviours which are learnt may have various environmental influences. According to learning theories, learning occurs through association (classical and operant conditioning), and observation learning etc.

There are a number of models available for analysing behaviour problems. One of the simplest models is known as A-B-C model, which is used commonly to analyse problem behaviours of mentally retarded children. This model helps to identify the factors, which contribute to the occurrence of the problem behaviours.

A stands for the ANTECEDENT factors. The analysis of antecedent will help the teacher to find the factors which contribute to the problem behaviour before its occurrence. The following factors have to be looked into to get more information in this regard:

a) When does the problem behaviour generally occur, - during recess, or I the class room when the teacher is busy with another student, or during lunch break.

b) Are there particular times of the day when the problem behaviour tends to occur more - for example, during morning hours or meal times.

c) With whom does the problem behaviour occur - are there specific places or situation where the problem behaviour occurs. - in the school playground or classroom or at home or when the child is sitting alone.

d) Where does the problem behaviour occur, that is, are there specific place or situation where the problem behaviour occurs, Example-in the school playground or classroom or at home or when the child is sitting alone.

B stands for the BEHAVIOUR that is, what happens during the problem behaviour. Result from the base line assessment of the behaviour will help to analyse the 'during' factors contributing to the problem behaviour, that is, it will answer the following question: How many times does the problem behaviour occur, or for how long does the problem behaviour occur.

C stands for the CONSEQUENCES of the behaviour, that is, the factor which fallow immediately after the behaviour. Analysis of 'after 'factors includes answering the following question:

a) What is The Reaction of the people around the child immediately after the occurrence of the problem behaviour?

b) What effect does the problem behaviour have on the given child or others?

c) Does the child benefit or gain something by indulging in the problem behaviour?

The analysis of consequences or after factors generally shows that most of the behaviours have a link with benefits (reward or reinforcement). As per the operant conditioning therefore, if there were no benefits, the behaviour would cease to occur. Thus functional analysis gives the complete details which would help in identifying the reasons for the behaviour.

4.5.2 Behaviour Modification Techniques

❖ It is based on thorough understanding of the antecedents and consequence of the behavior.

- ❖ The same problem behavior of beating others may not have the same management technique if the antecedents and consequence are different.
- ❖ Technique to reduce the occurrence of problem behavior are broadly divided into two categories.
  - ■ Direct punishment technique
  - ■ Non-punishment technique

* Punishment is the presentation of an aversive stimulus or withdrawal of reward to decrease the occurrence of the target behaviour.
* Punishment should not be confused with negative reinforcement.
* Non-punishment techniques are the first choice of management plan for reducing the undesirable behavior. Because -
* No one has ethically right to physically hurt someone or deprive others of their rights.
* Ideally it should not be used.
* Punishment should be used only when the other techniques are failed.

Direct Punishment Techniques

Enviornment restructuring

* Here we are trying to search of the appropriate antecedents factors which leading to problem behavior.
* We are removing the problem behavior by changing antecedents factors.

  Ex-Hair pulling.

  Poor concentration.

  Eating inedible things.
* Usually this technique has to be used along with other technique for more effective results.

Extinction / Ignoring

It is required to don't pay attention to the child whenever, he is showing problem behavior.

Indications

This technique is mainly used in the case of attention seeking behavior which include–

- Crying

- Making unnecessary noise.
- Talking with friends during class hours
- Interrupting other works
- Asking the same question again and again
- Repeatedly wanting to shake hand
- Saying 'NAMASTE' every time when meet the teacher.
- Asking to go to toilet too frequently.
- Complaint about other children
- Using mild abusive language.
- Showing the new dress he has worn, again and again.

Note:

When this technique is used, initially there is increase in the problem behavior. However, in the long run they will gradually decrease.

Whenever, this technique is used, then all others concerned with the child have to apply this technique. Otherwise, if attention is not given by one person the child may obtain it from others and problem behavior shall be maintained.

Limitation

Never use this technique when problem behavior is considered as dangerous to the child himself or others.

Time Out

Whenever, the child is showing problem behavior either the child is removed from the reward or reward should be removed from the child for a particular period of time.

Example -

- Standing the child in the corner of the wall immediately following problem behavior.
- Sitting alone for few minute (usually 2 to 5 minutes)
- Insist the child to place his head on the desk in a head down position.

* Place the child outside the sphere of learning activities from where he can see or hear the activities of others but can't participate in it. Example - to tell the child to stand on the bench after following problem behavior

* It is important to note that whatever you take away from the child, it must be considered pleasant by the child.
* Application of timeout should be done immediately after a problem behavior.
* Avoid to giving lectures before, during or after the use of timeout technique.
* Place the child in the timeout only for short periods of time no more than 2 to 5 minutes after each occurrence of problem behavior.
* Once the child is taken out from timeout room he should not be given any special treatment like.
  - Do you want to take water?
  - Avoid to telling him he should not do it again.
* Bring the child out of the room, leave him and continue your own activities.
* If the child indulgesun desirable behaviour after coming out from the time out, reward him, praise him. If not then again place him in timeout room.

Seclusion Timeout- place the child in the isolated room from where he can neither see nor hear or participate in the activities of others.

Indications - This technique can be used in the case of aggressive and destructive behavior, which includes:

- Pulling others hairs.
- Kicks others/objects/utensils.
- Break things.
- Snatches books.
- Throwing articles.
- Hitting others.
- Pinching others.

Note Timeout only teaches the children what not to do.

lt does not teach the child what to do. In order to teach the child what to do we must combine the use of timeout by giving rewards for appropriate behavior.

Response prevention

Response prevention is a procedure where we are preventing the undesirable behavior even before its occurrence.

E.g. - holding the hand of the child before beating - for preventing to occur. Response prevention may elicit an immediate and forceful repetition of the undesirable behavior.

Physical restraint

Physical restraint is the restricting the physical activities of the child after the occurrence of an undesirable behavior.

Whenever the child is showing problem behavior like pinching others, hold the child's arm as tightly as possible and maintained eye to eye contact in angry face with the child and say loudly 'no stop it'.

Holds the child's arm for a sorter period of time, not more than 30 seconds.

Provide reward to the child when he is behaving properly.

Over a number of trials this enable the child's to stop the problem behavior even to an emphatic 'NO'.

Indication - this technique can be used 111 the case of self-injurious behavior, which includes

- Head banging
- Hair pulling
- Biting self
- Thumb sucking
- Paper tearing
- Hitting others

Response cost

- ❖ This method is generally used when tokens are being used for increasing the desirable behavior.
- ❖ Following a particular problem behavior some ofthe tokens earned by the child is token back .
- ❖ Hence, the person has to pay the cost of doing a particular undesirable behavior.
- ❖ This technique is useful only when the child is able to understand the relationship between the problem behavior and his earned privileges being cost.

- ❖ Specify and fix the rules in front of the child for which specific problem behavior what privileges are to be lost.
- ❖ Avoid nagging, threatening or giving warning to the child before, during and after the application of this technique.

Indication

- The child refuses to work on assignment.
- Doing opposite whatever requires.
- Not following the commands of parents/ teacher.
- Always coming late.
- Hits other children.
- Uses 'bed' words.
- Works off seat etc.

Restitution/Restoration

Restitution or restoration refers to a procedure that requires an individual to return the environment to its state prior to a behavior that changed the environment.

That is, restoring the disturbed environment back to the normal condition. For example: if a child throwing rubbish paper on the floor is to pick up the same and put it in the waste paper basket.

Over -Correction:

It means restoring the disturbed environment back to more than normal conditions. For example: the person following a problem behavior, i.e., throwing food on the floor is to asked to clean not only that area but the entire room.

After the occurrence of problem behavior, the child is required to restore the disturbed situation to a state that is much better than earlier (before the occurrence of problem behavior).

For example: If the child passes urine in the class, he would be required to not only clean the dirty area but also mop the entire area of the floor.

If the child refuse to restore the damage done by him-

He must be physically made to carry out to do so

Withheld his preferred activities/food etc.

Never reward the child after he has finished restoring the damage to a better position than it was before.

This technique not only decreases the problem behavior but it increases the adaptive behavior also.

Positive Practice:

Positive practice refers to practicing an appropriate behavior as a consequence Cor inappropriate behavior. It means stopping all activities, whenever an error occurs and

the carefully performed the correct behavior several times.

No reinforcement is awarded after the positive practice is implemented.

Aversive Therapy

This is the last method of treatment to be used if other method fails to control a particular problem.

Aversive therapy is techniques that reduce the frequency of the undesirable behavior by associating it with real aversive stimuli during a conditioning procedure.

Indications

- Severe head banging
- Other stimuli type of self-injurious behavior
- Touching genital area of the opposite sex.

Non Punishment Techniques

- The aim of non-punishment techniques is to reduce undesirable behavior and the occurrence of a desirable behavior simultaneously.
- There are four types of differential reinforcement.

DIFFERENTIAL REINFORCEMENT OF INCOMPATIBLE BEHA VIOR (DRI)

OR

DIFFERENTIAL REINFORCEMENT OF OPPOSITE BEI-IA VIOR (ORO)

Here, the teachers reinforce those appropriate behavior where is exactly opposite to the problem behavior for example: - in the case of hyperactive children who often shows 'out of the seat' behavior for this children can take every opportunity to reward its opposite i.e., 'on-seat' behavior. Do not talk to the child when he is out of his seat but praise him when he is sitting on his seat and attending to his work.

In the long run, the child is more likely to attend to his work in future.

DIFFERENTIAL REINFORCEMENT OF OTHER BEI-IA VIOR (DRO)

Reinforce the child at the end or every pre-decided time-interval during which target problem behavior did not occur- for example:

In the case of hyperactive child, to bring down 'out of seat behavior' decides to immediately reward the child at the end of each 5 minutes interval, if the child did not get up from his seat.

A child who beat others for minor reason does not do that for a specific period of time and in engaged in some other activities which is not problematic, is reinforced.

DIFFERENTIAL REINFORCEMENT OF ALTERNATIVE BEHAVIOR (DRA)

It is the process involving the diversion of an undesirable behavior by presenting a desirable behavior and reinforcing it.

For example: two children who fight frequently for trivial reason are given an opportunity to work together to make something. Both of them like very much, and are frequently reinforced for their joint effort. Over a period of time the frequent fighting behavior is replaced by a desirable behavior of joint completion of a task.

DIFFERENTIAL REINFORCEMENT OF LOW RATE OF BEHAVIOR (ORL)

This technique is used when a behavior in its low frequency is desirable but when occurs more frequently is undesirable.

The technique involved reinforcing the behavior in its low frequency level and ignoring it in its high frequency level.

e.g.

A child who repeatedly asking the teacher whether tomorrow is holiday? Here this question once is reasonable and desirable behavior. But repeatedly asking the same question is undesirable. For solving this despite telling him every time that it is not a

holiday responding to his question only once and not paying attention to other time when it is repeated. Over a period of time will make the child to maintain the desirable behavior in its required frequency.

(ii) If the child ask permission to go to the toilet too frequently.

Solution: Reward if he goes to the toilet only once in three hours.

Note: This technique only reduces the intensity of the misbehavior, not eliminate completely.

4.5.3 Cognitive Behaviour Techniques

Cognitive behaviour techniques /therapy is an "active, directive, time limited, structured approach. Based on the underlying theoretical rationale that an individual's affect and behaviour are largely determined by the way in which he structures the world" (Beck et al. 1979, p.3).

CBT is

- Brief and time-limited, encouraging students to develop independent self-help skills.
- Problem-oriented and focused on factors maintaining difficulties rather than on their origins.
- Educational, presenting cognitive-behavioural techniques as skills to be acquired by practice and carried into the young person's environment through homework assignments.
- Evidence-based and derived from learning theory.

Cognitive Techniques involves:

The identification of unhelpful, negative thoughts or beliefs using monitoring forms.

The detection of distortions in thinking patterns, and

The challenging of cognitive distortions and the development of a more helpful, adaptive way of thinking:

1. What is the evidence for the thought?
2. Is there an alternative, more helpful way of thinking?

4.6 Management of Maladaptive Behavior at Home and School

Behavior modification is based on the principles of operant conditioning, which were developed by American behaviorist B. F. Skinner (1904-1990). Skinner formulated the concept of operant conditioning, through which behavior could be shaped by reinforcement or lack of it. Skinner considered his concept applicable to a wide range of both human and animal behaviors and introduced operant conditioning to the general public in his 1938 book, *The Behavior of Organisms*.

One behavior modification technique that is widely used is positive reinforcement, which encourages certain behaviors through a system of rewards. In behavior therapy, it is common for the therapist to draw up a contract with the client establishing the terms of the reward system.

Another behavior modification technique is negative reinforcement. Negative reinforcement is a method of training that uses a negative reinforcer.A negative reinforcer is an event or behavior whose reinforcing properties are associated with its removal. For example, terminating an existing electric shock after a rat presses a bar is a negative reinforcer.

In addition to rewarding desirable behavior, behavior modification can also discourage unwanted behavior, through punishment. Punishment is the application of an aversive or unpleasant stimulus in reaction to a particular behavior. For children, this could be the removal of television privileges when they disobey their parents or teacher. The removal of reinforcement altogether is called extinction. Extinction eliminates the incentive for unwanted behavior by withholding the expected response. A widespread parenting technique based on extinction is the time-out, in which a child is separated from the group when he or she misbehaves. This technique removes the expected reward of parental attention.

4.6.1. Management of Maladaptive Behaviour at Home

One of the biggest challenges parents face is managing difficult or defiant behavior on the part of children. The first step in a good behavior management plan is to identify target behaviors. These behaviors should be specific (so everyone is clear on what is expected), observable, and measurable (so everyone can agree whether or not the behavior happened).

Positive Behaviour Tips for Parents

1. Will have to remember 5 positives to I negative
2. Will have to set the stage for success and reward the effort
3. Will have to give clear, specific directions
4. Will have stay calm and use a calm voice
5. Will have to set reasonable limits - Avoid using "always" or "never"
6. Will have to be consistent.
7. Will have to set the example - Actions speak louder than words
8. Will have to proactively anticipate situations
9. Should have patience - A little goes a long way.

4.6.2 Classroom Behavioural Strategies and Intervention

Unique and individual interventions are more important than any prescribed behaviour program. Some examples of useful interventions include building relationships, adapting the environment, managing sensory stimulation, changing communication strategies, providing prompts and cues, using a teach, review, and reteach process, and developing social skills. The classroom teacher needs to ensure acceptance for all students in the classroom. Teachers' actions that can promote acceptance include

- choosing learning materials to represent all groups of students
- ensuring that all students can participate in extra activities
- valuing, respecting, and talking about differences
- celebrating cultural and ethnic differences
- ensuring that learning activities are designed for a variety of abilities
- ensuring that all students are protected from name-calling or other forms of abusive language.
- make the student aware of his or her timetable
- post timetables (with pictures) to show daily routines
- prepare students for transitions or changes

- make special arrangements for recess and lunch time, if necessary
- rephrase instructions, breaking them down into small steps
- using visual cues
- using pictures to illustrate steps in a process
- using sign prompts (e.g., red traffic light or stop sign)

Effective feedback should be immediate and follow the demonstration of an appropriate behaviour, the use of a routine, or the successful completion of teacher instructions. Research has shown that positive reinforcement can lead to improved behaviour. A-good general rule is that positive feedback should occur three times as frequently as negative feedback. The positive feedback does not always have to be verbal - it can also include praise, hugs, smiles, handshakes, nods, and eye contact.

4.6.3. Parental Counseling

Parent counseling and training is one of the most effective and underutilized related services - Research demonstrates that parent counseling &/or training can have a dramatic and positive impact on student behavior; yet it's rarely delineated on IEPs. The effects of parent training in preventing and reducing conduct problems are most impressive when intervention begins early, during early childhood or the early school years. Early intervention also has more lasting effects when parent training incorporates an academic/ cognitive component. Effective parent counseling/training programs teach parents to break a coercive & punitive parenting approach by promoting the following parenting and/or teaching skills:

1. The use of social and tangible reinforcement techniques (e.g., attention, treats, praise, privileges, etc.) for pro-social behavior (s) with their children, including:

a. Recognizing and reinforcing desired behaviors.

b. Social and tangible reinforcement techniques (e.g., praise, differential-attention, encouragement, point systems, privileges, and treats)

c. Problem-solving and negotiation strategies.

d. Giving direct commands in such a way as to gain more compliance.

e. Cognitive behavioral approaches such as mutual problem-solving strategies, self-management principles, and self-talk approaches to cope with depressive and self-defeating thoughts.

2. The use of less coercive discipline techniques and recognizing, tracking, and addressing problematic behaviors:

a. Effective response to inappropriate behaviors.

b. Setting limits effectively.

c. Using nonviolent discipline procedures, such as time-outs, short-term privilege removal, response cost, work chores, and logical and natural consequences, and monitoring.

d. The use of problem-solving and negotiation strategies.

3. Strengthening the parent and child relationship through a variety of techniques and strategies:

a. Recognizing their children's positive qualities.

b. Non-directive &/or child-directed play skills

c. Responding to their children in a sensitive and genuine manner

d. Teaching children and parents conflict management skills and self-control techniques

e. Monitoring their children even when the children are away from home.

4.6.4 Individual, Group and Community Counseling

Counseling's purpose is to provide help to those who need it. It embraces the adage that 'an ounce of prevention is equal to a pound of cure.' Counseling seeks to help people before the problem becomes heightened to a pathological level.

Counseling comes in multiple ways depending on the nature of the problem it is concerned with.

Individual counseling is counseling focused on the individual's immediate or near future concerns. Individual counseling is a one-on-one discussion between the counselor and the client, who is the person seeking treatment. The two form an alliance, relationship or bond that enables trust and personal growth.

Group counseling is counseling with multiple individuals facing a similar concern. The strength in group counseling is that if you have 3, 5 or 10 people together all facing the same issue or similar issues, then they can work together. For example, group counseling is common for those in the midst of a divorce. The individuals in the group act as a

source of insight and support while reinforcing the idea that each individual is not the only one experiencing these problems.

Community counseling services are often more specialized, allowing professionals to help their clients with a more particular set of skills. Community counseling is often located much closer to where patients actually live. This makes it easy for those with reduced mobility to attend their appointments without incident or delay.

Community counseling takes the service outside of the setup and puts it directly into the community, and that's where this particular type of counseling gets its name.

4.7 Ethical Issues in Behaviour Management and Implications for Inclusion

The decision regarding what should be taught and how to teach children with mental retardation is very crucial. It is advisable to follow a team approach in the planning, programming as well as implementation of the techniques of behavior change. The team must necessarily include the concerned staff at school, specialist as well as parents of children with special needs. To the extent possible the child should be included in the team. The team approach has the greatest advantage that the child's need will be taken care of from all the aspects. Classroom management involves encouraging students to change their behaviours. However, before and during any change process the following ethical Issues must be considered.

1. Model appropriate leadership

The student must see the educator's behavior as positive. To do this, the educator must develop a relationship of genuine caring, trust, and respect with the child. The child will then model her/his behavior after the educator's behavior.

2. Self-discipline

Because self-discipline is the goal of behavior management, teachers should encourage it in the classroom. By building respect and trust, the child will begin to feel the need to control her/his own behavior. This respect and trust can be fostered by positive interactions.

3. Match experiences to the student

Children should have positive experiences in school. An experience is usually positive if it is within the developmental stage of the child and has meaning for the child.

4. Show empathy

The educator needs to consider the child's problems objectively to deal with them. Emotion inhibits objective thinking, while empathy allows us to view the problem from different perspectives.

5. High expectations

Teachers must communicate to children their belief in each child's abilities and demand the highest achievement from them.

6. Freedom and independence to function

Children should be allowed as much independence to function as possible. If limits need to be established to avoid undo failure or injury students should be allowed to experience the logical consequences of their actions. This must be done to develop self-reliance and independence.

7. Principle of normalization

The child must be allowed to function in as normal an environment as possible.

8. Principle of fairness

The intervention must be fair and allow the child to succeed in school. If consequences are applied they must be appropriate with regard to the degree of the offense.

9. Principle of respect for dignity and worth of the individual

The intervention must provide the student an opportunity to learn or improve skills to master control over the student's environment without degrading the individual as a human being.

10. A continuum of behavior management interventions

The educator should use the intervention which least restricts the child in the classroom, yet is still effective. Over-restricting the child imposes on the student's rights within the classroom.

11. Behavior change must be rational and well planned

The behavior must be a behavior which hampers the child's performance in the classroom, the educator must have a rationale for changing the behavior, and follow a behavioral change procedure that will result in the implementation of a behavioral strategy that is prescriptive to the behavior and does not violate the ethical considerations or due process.

12. Consent.

The educator should be sure to notify those involved with the child of the management procedures and obtain consent to proceed. This practice will help avoid conflict over the behavior intervention.

4.8 Let us Sum-Up

1. Behavior modification refers to the techniques used to try and decrease or increase a particular type of behavior or reaction. This might sound very technical, but it's used very frequently by all of us. Parents use this to teach their children right from wrong. Therapists use it to promote healthy behaviors in their patients. Animal trainers use it to develop obedience between a pet and its owner. We even use it in our relationships with friends and significant others. Our responses to them teach them what we like and what we don't.
2. The purpose behind behavior modification is not to understand why or how a particular behavior started. Instead, it only focuses on changing the behavior, and there are various different methods used to accomplish it. This includes:

- Positive reinforcement
- Negative reinforcement
- Punishment
- Flooding
- Systematic desensitization
- Aversion therapy
- Extinction

3. Positive reinforcement is pairing a positive stimulus to a behavior. A good example of this is when teachers reward their students for getting a good grade with stickers. Positive reinforcement is also often used in training dogs. Pairing a click with a good behavior, then rewarding with a treat, is positive reinforcement.
4. egative reinforcement is the opposite and is the pairing of a behavior to the removal of a negative stimulus. A child that throws a tantrum because he or she doesn't want to eat vegetables and has his or her vegetables taken away would be a good example.

5. Punishment is designed to weaken behaviors by pairing an unpleasant stimulus to a behavior. Receiving a detention for bad behavior is a good example of a punishment.
6. In behavior modification, extinction eliminates the incentive for unwanted behavior by withholding the expected response. A widespread parenting technique based on extinction is the time-out, in which a child is separated from the group when he or she misbehaves. This technique removes the expected reward of parental attention.

4.9 Check Your Progress

A. 1. What is maladaptive behaviour?

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2. Explain the di fferent behavior modification techniques?

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3. Discuss about the A-8-C Model.

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B. 1. Discuss about the classroom management for children with maladaptive behaviour.

2. Prepare a short note on Cognitive Behaviour Techniques.

C. Points for Discussion / Clarification

After going through the Unit you may like to have further discussions on some points and clari fication on other.

1) Points for Discussion

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2) Points for Clarification

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4.10 Refereces and Further Readings

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Unit - 5 ❐ Therapeutic Intervention

Structure

5.1 Introduction

Treatment of developmental disabilities can come in a variety of different forms. The best treatment regimens are the result of an individualized treatment plan formed by a team of health care multidisciplinary professionals. The plan will be based on the severity of the disability and should involve patients, families, teachers, and caregivers in all phases of planning, decision making, and treatment. The individualized treatment plan will take into consideration both the immediate needs of the patient, and the long term prognosis for development.

Occupational therapy, or OT for short, is a treatment therapy that helps people achieves independence in all facets of their lives. If a child has physical disabilities or developmental delays, occupational therapy can improve their cognitive (thinking), physical and major skills as well as address psychological, social, and environmental factors that impact the child's functioning.

Physical therapy (PT), or sometimes called physiotherapy, focuses on improving gross and fine motor skills, balance and coordination, and strength and endurance. The child may be evaluated by a physical therapist to assess muscle and joint function, mobility, strength and endurance, oral motor skills such as feeding and talking, posture and balance, even the status of the heart and lungs.

Speech therapy is a clinical program aimed at improving speech and language skills and oral motor abilities. This means talking, using sign language, or using a communication aid. Children who are able to talk may work on making their speech clearer, or on building their language skills by learning new words, learning to speak in sentences, or improving their listening skills.

Dance and creative movement provide physical challenges in a structured, supportive environment for sensory integration. The intimate connection with music often makes dance feci less like exercise or physical therapy and more like leisure. Dance/Movement Therapy (DMT) has been used in the United States since World War II. Marian Chace, a dancer, choreographer, and teacher of modern dance in Washington D.C. during the 1930s and 1940s, first developed the mind body connection as a form of therapy for her dance students. She "questioned why pupils who had no intention of being professional came to take dance classes" and started gearing her classes toward the needs and interests of recreational dancers.

In 1942, she was asked to work with returning soldiers from World War II at St. Elizabeth's Hospital in Washington D.C. Dance/movement therapy was seen as promising because it could so easily be a group treatment. Chace developed her methods working with institutionalized, often schizophrenic and psychotic, individuals.

Music therapy enhances one's quality of life, involving relationships between a qualified music therapist and individual; between one individual and another; between the individual and his/her family; and between the music and the participants. These relationships are structured and adapted through the elements of music to create a positive environment and set the occasion for successful growth.

Music Therapy is a well-established, research-based profession In which music is used to accomplish therapeutic and educational goals. Recreational therapy is based on the idea of increasing a person's independence and ability to function through participation in creative arts, dance, sports, adventure programs and puzzles or logic games. It is a holistic approach to wellness.

According to the American Therapeutic Recreation Association, recreational therapy "aims to improve an individual's functioning and keep them as active, healthy and independent as possible in their chosen life pursuits." In most cases, these goals are accomplished by combining a person's speech, fine motor or gross motor goals with community involvement, while engaging in the person's preferred interests.

5.2 Objectives

After going through this unit you will be able to

- Define the different therapies like occupational, physio, speech, yoga and play, music, dance and movement.
- Discuss the aims and objectives of the different therapies.
- Narrate the scope and modal ities of the therapies.
- Describe the intervention procedures of the therapies.

5.3 Occupational Therapy: Definition, Objectives, Scope, Modalities And Intervention.

5.3.1 Definition of Occupational Therapy

Occupational therapy is a method of treatment for which the primary area of concern is the patient's ability to perform functions required in day to day life. This method of treatment is also concerned with the social, psychological and cognitive development of the patient.

In the early years, occupational therapy was regarded as a means to keep long term convalescent patients occupied. It derived the name "Occupational therapy" owing to this. Its contribution was limited to the field of chronic illness - metal illness, tuberculosis, leprosy etc. Occupational therapy is a client-centred health profession concerned with

promoting health and well being through occupation. The primary goal of occupational therapy is to enable people to participate in the activities of everyday life. Occupational therapists achieve this outcome by working with people and communities to enhance their ability to engage in the occupations they want to, need to, or are expected to do, or by modifying the occupation or the environment to better support their occupational engagement. (WFOT 2012)

"Occupational therapy is the art and science of directing man's participation in selected tasks to restore, reinforce and enhance the performance, facilitate learning of those skills and functions essential for adaptation and productivity, to diminish or correct pathology and to promote and maintain health." (Council of Standards, American Occupational Therapy Association, 1972)

5.3.2 Aims of Occupational Therapy

A person with intellectual disability is observed to have dysfunction in almost all performance components. The specific aims of occupational therapy for persons with intellectual disability are as follows.

(a) To facilitate the development of performance components of the patients.

(b) To enhance independence of the patients.

(c) To provide sensory stimulation.

(d) To improve hand functions.

(e) To enhance gross motor functions.

(f) To facilitate development of perceptual motor functions.

(g) To reinforce social development.

(h) To enhance independence skills.

(i) To provide vocational training.

(j) To correct mal adaptive behaviour.

(k) To provide extrinsic adaptations.

5.3.3 Objectives of Occupational Therapy

Occupational Therapists work with children who have difficulties with the practical and social skills necessary for their everyday life. An Occupational Therapist will aim to enable the child to be as physically, psychologically and socially independent as possible. Occupational Therapists work in close partnership with the child and their family, schools and other healthcare professionals. Together they have a shared responsibility for meeting the child's needs. In schools, for example, they evaluate the child's abilities, recommend and provide therapy, modify classroom equipment, and help the child participate as fully as possible in school programs and activities. A therapist may work with the child individually, lead small groups in the classroom, consult with a teacher to improve the functioning skills of the child etc.

Occupational therapy is provided when there is a disruption In function in one or more of the following the areas:

Gross Motor Skills: Movement of the large muscles in the arms, and legs. Abilities like rolling, crawling, walking, running, jumping, hopping, skipping etc.

Fine Motor Skills: Movement and dexterity of the small muscles in the hands and fingers. Abilities like in-hand manipulation, reaching, carrying, shifting small objects etc.

Cognitive Perceptual Skills: Abilities like attention, concentration, memory, comprehending information, thinking, reasoning, problem solving, understanding concept of shape, size and colors etc.

Sensory Integration: ability to take in, sort out, and respond to the input received from the world. Sensory processing abilities like vestibular, proprioceptive, tactile, visual, auditory, gustatory and olfactory skills.

Visual Motor Skills: A child's movement based on the perception of visual information. Abilities like copying.

Motor Planning Skills: Ability to plan, implement, and sequence motor tasks.

Oral Motor Skills: Movement of muscles in the mouth, lips, tongue, and jaw, including sucking, biting, chewing, blowing and licking.

Play Skills: To develop age appropriate, purposeful play skills

Socio-emotional Skills: Ability to interact with peers and others.

Activities of daily living: Self-care skills like daily dressing, feeding, grooming and toilet tasks. Also environment manipulation like handling switches, door knobs, phones, TV remote etc.

Occupational therapists in schools collaborate with teachers, special educators, other school personnel, and parents to develop and implement individual or group programs, provide counselling, and support classroom activities.

Occupational therapists design and develop equipment or techniques for improving existing mode of functioning.

5.3.4 Scope of Occupational Therapy

Occupational Therapists work with parents/care givers and others to assess if a child has difficulties with practical and social skills. Occupational Therapists assess the physical, psychological and social functions of the individual identify areas of dysfunction and involves the individual in a structured programme of activity to overcome disability. Following assessment, the Occupational Therapist will design and implement programs with appropriate strategies in order to enable the child to maximize his/her potential.

Occupational Therapists provide services to individuals often in conjunction with physicians, social workers, psychologists, and other therapists. Occupational therapists use qualitative and quantitative assessment methods, including standardized tests, as well as devices, to analyze and diagnose the nature and extent of dysfunction. Occupational therapists develop an individualized plan of care, tailored to each patient's needs.

5.3.5 Modalities of Occupational Therapy

Occupational Therapy is a form of treatment which directs the patients to practice and master human activities. Thus human activity is indeed the foremost modality of occupational therapy. The modalities of occupational therapy are as

1. Human Activity.
2. Extrinsic adaptation: Extrinsic adaptation is a adaptation in the physical, natural or non human environment of the person. Here adaptation refers to the structural adjustment or change in factors in the environment.

3. Splints and pressure garments.
4. Therapist.
5. Environment
6. Teaching/ Learning Process.

5.3.6 The Intervention Process

Occupational therapy intervention for people with intellectual disability is an on-going process that is both gradual and dynamic. Treatment is provided throughout the life cycle in accordance with the client's changing needs, desires and preferences in all areas of occupation. The intervention often requires repeated drills and practice to achieve internalization and learning, and performance in a variety of contexts to enable generalization. As is the case with respect to assessment, the intervention is preferably carried out in the client's various daily environments. This enables and encourages the client's participation in the many contexts of his/her life. Occupational therapy interventions for people with intellectual disabilities are specifically adapted to the client with respect to the degree and type of support needed as well as the context. Interventions may include direct treatment as well as environmental adaptations, guidance, monitoring and counseling (including of the family, the educational staff, the clinical staff, employers and others).

Examples of Occupational Therapy Intervention:

Activities of daily living: including activities directed to the person's care of his/her hodily needs (ADL) such as personal hygiene, eating, dressing, and instrumental activities of daily life (lADL) such as preparing a meal or managing finances. This area represents a central focus of i rtervention in occupational therapy for this population. For example, with respect to activities related to eating, the intervention can range from adapting the feeding environment, choosing preferred food or bringing the food to one's mouth, to teaching more advanced skills such as organizing shopping, and meal preparation.

Learning/Studies: These are activities necessary to be a student and to participate in a learning environment, including academic and non-academic activities. Intervention in this area covers a variety of educational settings such as day care centers for very young children, kindergartens and special education schools (ages 3-21 years), regular school settings and professional training facilities. The intervention is varied and may focus on

gaining basic learning-skills, such as understanding cause and effect processes and object permanence, or on more complicated skills, such as preparation for learning and writing, organization in time, in space and with accessories, adaptation to different learning environments, the use of information technologies and computers and gaining learning strategies. In addition, the intervention can include adapting various learning environments.

Work: These are productive activities, whether for remuneration or not, that include preparing for work, producing a product and providing services. Intervention in this area covers a variety of work settings including: special educational settings in which students receive training to enter the work force, youth rehabilitation centers, adult sheltered-work facilities, an array of protected supportive community work systems, and placement-services for gaining open market positions. Intervention varies and may include basic work skills training (behavior norms, work routines), developing and practicing basic cognitive abilities, practicing motor skills, exposure to varied work opportunities, support and advice for developing areas of interest, identifying abilities and choosing suitable occupations, analyzing occupations and adapting them as needed, as well as supporting and assisting placement in various work sights in the community.

Play: These are activities that are generally internally motivated and provide pleasure, entertainment and learning. Play-intervention, as an occupational therapy goal in this population, is directed towards the most basic experiencing of playas a source of pleasure, as well as providing the client with an opportunity to participate in play activities. The intervention includes drills in basic skills such as the use of equipment, recognizing rules and agreed-upon behavior patterns, or choosing suitable play activities. In addition, play represents a treatment method for learning and practicing a variety of social, motor and functional skills.

Leisure: These are non-obligatory activities that are internally motivated and are performed at times that are not devoted to work, studies, self-care or sleep. Research reveals that people within this population have a relatively large amount of time to devote to leisure, whereas their participation in leisure activities is minimal (Buttimer & Teirney, 2005). Therefore, coping with leisure within this population is a central topic. Intervention in this area may focus on exposure to varied leisure opportunities, identification and choice of areas of interest, planning leisure time and participation in activities that lead to a perception of capability, pleasure, control and satisfaction.

Social participation: These are activities related to agreed-upon behavior patterns expected of an individual within a given social system (e.g. community, family or with friends). The intervention within occupational therapy encourages the person to gain skills in the various areas or occupation and thus supports and strengthens social participation. For this population, an emphasis is places upon understanding acceptable social norms and as well as learning and practicing activities that lead to satisfactory social interactions.

Accessibility and Environmental Modification: Occupational therapy practice relates to the person, the occupation and the environment. The occupational therapist's broad knowledge base in the areas of function and I imitation enables him/her to identify, through performance analysis in the different areas of occupation, environments and/or tasks that should be modified. The various limitations that characterize the population of people with intellectual disabilities require both general and client-specific environmental modifications to ensure accessibility. The characteristic difficulty in problem-solving, initiative and coping with unfamiliar situations, amplifies the need for accessibility modifications for this population. These accessibility modifications include changes in the environment (as in widening passageways, modifying playgrounds or adding symbol signs), in the equipment (such as adapting seating systems of adapting feeding aids), or or the task (such as changing the complexity of instructions or dividing a task into sub-stages).

Assistive technology is one of the methods used to adapt the environment and includes modifications of hardware; software and various combinations thereof (such as a virtual keyboard, a touch screen, a motorized wheelchair, switch systems, computer programs and internet sites, adapted content amount, or voice output devices). Thus, for example, a switch can be modified to be activated through the person's head or hand. Other modifications of the switch may include size, colour, texture, or sensitivity (such as speed or pressure response). Assistive technology promotes a variety of functions related to the individual, the occupation and the environment. In addition, it allows for the modification of an individual's environment in the manner in which his/her requires, by relating to his personal abilities, wants, areas of interest and specific limitations and difficulties.

Environmental modification is likely to significantly improve a person's ability to participate in all areas of occupation, his or her level of independence and the degree of supports required.

In summary, the occupational therapist, as part of a therapeutic, rehabilitative and educational profession playa central role within the support system available to people with intellectual and developmental disabilities, throughout the life cycle. As such, occupational therapists hold key positions as leaders in this area. Working with people with intellectual and developmental disabilities requires consideration of function, independence and participation in the various areas of occupation, which enables the occupational therapist to utilize all the areas of knowledge and expertise included in the practice of occupational therapy.

5.4 Physiotherapy: Definition, Objective, Scope, Modalities and Intervention

5.4.1 Definition of Physiotherapy

It is also called physical therapy. The treatment of physical dysfunction or injury by the use of therapeutic exercise and the application of physical modalities (like heat, light, cold, current, water, sound waves). Assistive device are also used as a part of the treatment programme. They are intended to restore or facilitate normal function or development.

5.4.2 Aims and Objectives of Physiotherapy

Physiotherapy in the field of mental retardation is aimed at improving overall motor functions of the child to the maximum extent possible, so as to make the child independent in walking and carrying out activities of daily living. If it is not possible for the person to walk, and carry out activities independently, then aids and appliances are trainings given to the person to use it.

(A) Objectives of physiotherapy in general

1. Reduces or relieves pain, muscle spasm, tenderness of muscles.
2. It helps to reduce or relieve swelling.
3. It helps to reduce or relieve inflammation (means the response of the body in the form of pain, swelling, muscle spasm and tenderness of the muscles etc. in the presence of any foreign body).
4. To improve ventilation of lungs, by giving, deep breathing exercises and postural drainage.

5. To encourage correct weight bearing and weight transference on both sides of the body.
6. Re-education of affected or paralysed muscles.
7. It is effective in healing of infected wounds.
8. It helps to check the abnormal growth of bone (bony spurs).
9. Breaking up of adhesion formation (gluing of joint structures by synovial fluid).
10. To keep the person physically fit.
11. To teach relaxation.
12. Stimulation of sensory and motor nerves if sensations are reduced or lost.
13. Post fracture and dislocation, management.

(B) Objectives of physiotherapy in relation to Intellectual Disability

1. To facilitate the development of child gross motor and fine motor.
2. To prevent or correct contractures and deformities.
3. Prevent or correct wasting and atrophy of muscle.
4. To normalize muscle tone.
5. To maintain or improve the muscle power.
6. To maintain and improve the joint range of movement.
7. To emphasize the importance of handling and positioning the child.
8. To make the child independent in walking and activities of daily living.
9. Provide aids and appliances and to train the person and parents how to use assistive devices.
10. To improve posture, gait, balance coordination.
11. Inhibition of abnormal reflex activity, abnormal patterns of movement and abnormal muscle tone and facilitation of normal in place of abnormal.
12. To keep the children physically fit.

5.4.3 Scope of Physiotherapy

Physiotherapy has scope in treating a wide range of conditions. It play an important

role in all the branches of medical sciences, especially Orthopaedics, Paediatrics, Neurology, Cardio thoracic, Surgery, Sport Medicine etc. In set ups like leprosy, paraplegic and poliomyelitis after plastic surgery, burns clinics, spinal cord injury centres and in assistive devices manufacturing units etc.

Physiotherapy has three major functions in the management of children with intellectual disability.

1. To facilitate motor development
2. To prevent and correct contractu res and deformities.
4. To make the child as independent as possible and functional (locomotor function and activities of daily living).

5.4.4 Modalities of Physiotherapy

1. Hydrotherapy:

   Hydrotherapy, or water therapy, is the use of water (hot. cold, steam, or ice) to relieve disco mfort and promote physical well-being.
2. Electrotherapy:

   Electrotherapy is the use of electrical energy as a medical treatment.
3. Exercise Therapy:

   Exercise Therapy is a regimen or plan of physical activities designed and prescribed for specific therapeutic goals.
4. Massage or Manipulation
5. Gait:

   Gait training is a type of physical therapy. It can help improve your ability to stand and walk.

5.4.5. Intervention of Physiotherapy

Role of Physiotherapist in the field of Intellectual Disability

- **Diagnostician:** Here the physiotherapists assess the client and order for the necessary investigation, on the basis of this therapist arises at diagnosis. According to the diagnosis therapy will be planned.
- **Interventionist:** Therapist plays a role as interventionist in setting intervention goals. planning and implementation of therapy programme, giving follow - up and

regular evaluation of the client, modifying programme as per the clients need.

- **Team member:** Therapist treated as a team member as the team member in multidisciplinary approach, this is the most commonly seen approach in field of mental retardation. In Trans disciplinary approach therapist playa role as a team member by gathering information and helps in planning intervention along with other experts of the team. In certain condition therapist become a case manager and given input.
- Proving Information and guidance: As the parents need information guidance regarding the condition of the child and therapy, the therapist gives proper information to parents and also to other professional whenever needed.
- Counsellor: Physiotherapist plays a counsellor role in the field of mental retardation. Parent counselling is in important aspect, which should be included in intervention programme. The parents of the clients may not be aware of the condition of child and the facilities available for their child. They will come to you in a state of confusion and anxiety to know what happening with their child.

Before as part of planning and intervention programme therapist should give proper information to the parents regarding the following things:

- Condition of the child.
- Child's needs and abilities.
- How the therapy is going to help the child in improving his functional abilities.
- Proper instructions given to the parents.
- Training is given to the parents how to give therapy at home.
- What are the facilities and services available for the persons with intellectual disability.
- **Trainer:** Therapist plays a role of trainer, as the therapist will train the parents how to give therapy at home and conducts classes and workshops for parents and other professional, to make them aware of disability and affects of intervention on the clients.
- **Researcher:** Research is an important aspect in the field of intellectual disability. Therapist also plays a role as a researcher by doing research on different aspects

and population study. To innovate new techniques and equipment for making the intervention better and to get better out come results.

- Leader**:** Therapist plays a role of leader of the team voicing on behalf of the client and by giving guidelines to the former self-help groups by the parents.
- **As an administrative officer:** Therapist plays a role of administrative officer by heading and organization and establishing a institution or center to serve the people better.
- **Provider of referral:** Therapist will give referrals to the concern professionals to obtain information of the clients and to related services outside the institute for investigations or for expert opinion.

5.5 Speech Therapy: Definition, Objectives, Scope, Types of Speech, Hearing and Language Disorders and Intervention

5.5.1 Definition of Speech and Language Therapy:

Speech and language therapy provides treatment, support and care for children and adults who have difficulties with communication, or with eating, drinking and swallowing.

Speech and language therapists (SL Ts) are allied health professionals. They work with parents, carers and other professionals, such as teachers, occupational therapists and doctors.

5.5.2 Objectives of Speech Therapy

A speech pathologist's narrow, well-defined objectives work toward achieving broad therapeutic goals. This professional develops an individualized treatment plan for each patient, which often includes time-based objectives. For example, his objectives may include helping a patient correctly say several new sounds by the end of a quarter, marking period or year. Other objectives can include helping a patient to understand and to explain a speaker's gestures, demonstrate newly learned conversation strategies, explain the perception of body language, speak for a period of time without stuttering and improve reading comprehension to a specific level.

A speech language pathologist sets broad but specific goals for each of his patients. Specific goals can include helping patients develop clearer speech, learn to use alternate

methods of communication, develop better reading and writing skills, and strengthen throat and neck muscles.

Goals also may include coordinating treatment programs with other professionals or referring patients for other treatments. For example, a patient with a swallowing disorder may benefit from the collaborative care of a speech language pathologist and a medical doctor.

5.5.3 Scope of Speech therapy

Speech Therapy is an Allied Health Science subject. Medical advancement in this field, awareness of the need for early intervention etc has increased the scope of Speech Therapy. A number of Speech Therapy courses are available now in India and abroad.

Speech Therapy has its necessity in teaching and training children with intellectual disability.

5.5.4 Types of Speech, Language and Hearing Disorders

The most intensive period of speech and language development is during the three of life a period when the brain is developing and maturing. There skills appear to develop best in a world that is rich with sounds, sights, and consistent exposure to the speech and language of others.

At the root of this development is the desire to communicate or interact with the world.

The beginning sign of communication occur in the first few days of life where in infant learns that a cry will bring food, comfort, and companionship. Research has shown that by 6 months of age, most children recognize the basic sounds of their native language.

5.5.4 (a) Speech and Language Disorders

A speech disorder refers to a problem with the actual production of sounds. A language disorder refers to a problem understanding or putting words together to communicate ideas.

Speech disorders include:

1. Articulation disorders: difficulties producing sounds in syllables or saying words incorrectly to the point that listeners can't understand what's being said.
3. Fluency disorders: problems such as stuttering, in which the flow of speech is

interrupted by abnormal stoppages, partial-word repetitions ("b-b-boy"), or prolonging sounds and syllables (sssssnake).

4. Resonance or voice disorders: problems with the pitch, volume, or quality of the voice that distract listeners from what's being said. These types of disorders may also cause pain or discomfort for a child when speaking.

Language disorders can be either receptive or expressive:

1. Receptive disorders: difficulties understanding or processing language.
2. Expressive disorders: difficulty putting words together, limited vocabulary, or inability to use language in a socially appropriate way.
3. Cognitive-communication disorders: difficulty with communication skills that involve memory, attention, perception, organization, regulation, and problem solving.

5.5.4 (b) Hearing disorders

There are four types of hearing loss:

- Auditory Processing Disorders
- Conductive
- Sensorineural
- Mixed.
- **Auditory Processing Disorders**

Auditory Processing Disorders occur when the brain has problems processing the information contained in sound, such as understanding speech and working out where sounds are coming from.

- **Conductive Hearing Loss**

Conductive Hearing Loss occurs when there is a problem with the Outer or Middle Ear which interferes with the passing sound to the Inner Ear. It can be caused by such things as too much earwax, Ear Infections, a punctured eardrum, a fluid build-up, or abnormal bone growth in the Middle Ear such as Otosclerosis. It is more common in children and indigenous populations.

Surgery and some types of hearing technologies can be used to treat Conductive Hearing

Loss such as Bone Conduction Hearing Aids, Bone Anchored Hearing Devices and Middle Ear Implants.

- **Sensorineural Hearing Loss**

Sensorineural Hearing Loss occurs when the hearing organ, the Cochlea, and/or the auditory nerve is damaged or malfunctions so it is unable to accurately send the electrical information to the brain. Sensorineural Hearing Loss is almost always permanent.

It can be genetic or caused by the natural aging process, diseases, accidents or exposure to loud noises such as Noise-induced Hearing Loss and certain kinds of chemicals and medications. Auditory Neuropathy is another form where the nerves that carry sound information to the brain are damaged or malfunction.

Technologies such as Hearing Aids, Cochlear Implants and Hybrid Cochlear Implants can help reduce the effects of having Sensorineural Hearing Loss.

- **Mixed Hearing Loss**

A Mixed Hearing Loss occurs when both Conductive Hearing Loss and Sensorineural Hearing Loss are present. The sensorineural component is permanent, while the conductive component can either be permanent or temporary. For example, a Mixed Hearing Loss can occur when a person with Presbycusis also has an Ear Infection.

5.5.5 Speech and Language Intervention

In speech-language therapy, a speech language pathologist will work with a child one-to-one, in a small group, or directly in a classroom to overcome difficulties involved with a specific disorder.

Therapists use a variety of strategies, including:

- **Language intervention activities:** The SLP will interact with a child by playing and talking, using pictures, books, objects, or ongoing events to stimulate language development. The therapist may also model correct vocabulary and grammar and use repetition exercises to build language skills.
- **Articulation therapy:** Articulation, or sound production, exercises involve having the therapist model correct sounds and syllables in words and sentences for a child, often during play activities. The level of play is age-appropriate and related to the child's specific needs. The SLP will physically show the child how to make certain

sounds, such as the "r" sound, and may demonstrate how to move the tongue to produce specific sounds.

- **Oral-motor/feeding and swallowing therapy:** The SLP may use a variety of oral exercises -including facial massage and various tongue, lip, and jaw exercises - to strengthen the muscles of the mouth for eating, drinking, and swallowing. The SLP may also introduce different food textures and temperatures to increase a child's oral awareness during eating and swallowing. General guidelines for interventions
- Selection of Specific goals
- Organizing all the gathered information
- Structure the environment
- Selection 0 f relevant materials
- Transformation and adaptation of the material
- Use of object from the environment
- Maintenance of schedule Principles for therapy
- Highlighting new or relevant information
- Pre-organized information
- Trained rehearsal strategies
- Using over learning & repetition
- Training in natural environment
- Early Intervention
- Following proper schedule

5.6 Yoga and Play Therapy: Definition, Objectives, Scope and Intervention

5.6.1 Meaning and Definition of Yoga

The word yoga comes from the Sanskrit root ' Yug' meaning to join on yoke, implying the integration (on joining) of every aspect of human being from the inner most to the external. Yoga is practical philosophy that aims at uniting the body, mind, and spirit for

health and fulfilment.The father of modern yogashashtra Patanjali Maharshi defines yoga as 'Yogaschitta Vrutti Nirodhaha' that is yoga is controlling the nature of the mind.

The ultimate aim of this philosophy is to strike a balance between mind and body and attain self- enlightenment. To achieve this, yoga uses movement, breath, posture, relaxation and meditation in order to establish a healthy, lively and balanced approach to life. Though the exact origins of Yoga are unknown but Yoga is considered to be the oldest physical discipline in existence. Yoga, thus symbolizes balance in every area of life. Yoga is one of the six schools of ancient Indian Philosophy. It is the practice that enables one to achieve higher levels of performance, bringing out the hidden potentials from within. Systematic Yoga practice will increase the physiological and psychological well being.

5.6.2 Objectives of Yoga

- Yoga practice reduces tension, stress, anxiety, weakness, helplessness, fear, negative thoughts etc. Which are increasing day by day in this mechanical human life.
- It treats the prolonged diseases or deficiencies like diabetes, asthma. heart problems, pains, sprains, indigestion etc. and makes the body active and good looking.
- Yoga practice equips the practitioners with devotion, attention, and concentration and alertness in every activity that he does. He also discharges his responsibilities with dedication thereby get respect and honor at his work.
- Man can prove his life worth living by developing his self physically and psychologically that contribute for the development of spiritual instinct in him.
- As soon as one is habituated for yoga practice, there would be number of changes in his routine activities, habits, thoughts, food habits, behaviors etc.
- Improvement in balance is one of the major benefits of Yoga. Improved balance is referred not only to the sharp physical coordination but also to the balance between the left and right, front and back and high and low aspects of one's body.
- Along with a host of benefits, Yoga also helps in developing and attaining personal values. Yoga erases a variety of ills in human beings. These may range from feel ings of frustration, persecution and insecurity. Yoga greatly hel ps in the development of personal values. Personal values are those values which an individual develops and lives by all through his life.

- Yoga and social values are closely related to each other. Social values are a set of philosophy that an individual carries for all his life. Yoga possesses great power to inculcate those values that go a long way in making a man complete.
- Yoga helps an individual not only to realize his own self but also understand other issues around him/her. Yogic theory and practice lead to increased self-knowledge. Yogic practices like breathing and posture exercises help in attaining and maintaining health, physical and mental, and relaxation. The knowledge gained through Yoga is not simply that of the practical kind relating to techniques, but of a spiritual sort pertaining to grasping something about the nature self and other matters.

5.6.3 Scope of Yoga Therapy

Yoga is certainly more than mastering its postures and asanas and increasing the strength and flexibility of body. It indicates towards healing of mind and body and attaining the state of self- enlightenment. It is said that in early periods when Yoga was just introduced, the main purpose was to heal community members and the practitioners act as religious mediators. Needless to say, practicing of Yoga includes the traditional aspects too such as practicing different poses, chanting of mantra, observing breathing habit and controlling thoughts coming to mind with the help of meditation. Today, it has been practiced for fitness, healthy body and mind, strength, flexibility, emotional well-being and much more. The main purpose of practicing Yoga is to taking control over the body, mind and emotional aspects. The cessation of bad thoughts creates a positive vibe around the person and makes him healthy overall.

5.6.4 Yoga Intervention

Yoga is an ancient Indian practice which involves moving the body and training the mind to achieve balance and well-being. The purpose of traditional yoga is for each individual to be healthy, both physically and mentally, and able to reach his or her highest potential as a person. Yoga aim is to prepare the body for meditation through breathing and physical exercises. Yoga emphasizes body-mind wellness through postures or asanas which tone and strengthen our muscles and increase our flexibility. The different asanas, particularly the twists and inversions, stimulate internal organs, as well as the nervous system, and promote circulation in all the body's major organs and glands.

Importance of yoga for children with intellectual disability

1. Helps to co-ordinate the activities of the mind and body.

2. Tends to reduce the distracted state of mind and helping the mind to deal on the present activity.

4. Helps to improve his adaptive behavior to a degree unobtainable before.

5. Actively increase the ability to concentrate on the present activity.

6. Aims at improving general health, concentration, self-reliance and social relationship of the persons with mental retardation.

6. Yoga has been tried as an adjunct in education of children with mental retardation and attention deficit hyperactivity disorder.

5.6.5 Definition of Play Therapy

Play Therapy uses a variety of play and creative arts techniques (the 'Play Therapy Tool-Kit (TM)' to alleviate chronic, mild and moderate psychological and emotional conditions in children that are causing behavioural problems and/or are preventing children from realising their potential.

The Play Therapist works integratively using a wide range of play and creative arts techniques, mostly responding to the child's wishes. This distinguishes the Play Therapist from more specialised therapists (Art, Music, Drama etc). The greater depth of skills and experience distinguishes a play therapist from those using therapeutic play skills.

Play therapy utilizes play, children's natural medium of expression, to help them express their feelings more easily through toys instead of words.

Association for Play Therapy (APT) defines play therapy as "the systematic use of a theoretical model to establish an interpersonal process wherein trained play therapists use the therapeutic powers of play to help clients prevent or resolve psychosocial difficulties and achieve optimal growth and development."

In the textbook Play Therapy: The Art of the Relationship (2nd ed.), Landreth (2002) defined child-centered play therapy:

A dynamic interpersonal relationship between a child (or person of any age) and a therapist trained in play therapy procedures who provides selected play materials and facilitates the development of a safe relationship for the child (or person of any age) to fully express and explore self (feelings, thoughts, experiences, and behaviors) through play, the child's natural medium of communication, for optimal growth and development.

5.6.6 Scope of Play Therapy

Children are referred for play therapy to resolve their problems (Carmichael; 2006; Schaefer. 1993). Often, children have used up their own problem solving tools, and they misbehave. may act out at home, with friends, and at school (Landreth, 2002). Play therapy allows trained mental health practitioners who specialize in play therapy. to assess and understand children's pia).

Further. play therapy is utilized to help children cope with difficult emotions and find solutions to problems (Moustakas, 1997; Reddy, Files-Hall, & Schaefer, 2005). l3y confronting problems in the clinical Play Therapy setting, children find healthier solutions. Play therapy allows children to change the way they think about, feel toward, and resolve their concerns (Kaugars & Russ, 200 I). Even the most troubling problems can be confronted in play therapy and lasting resolutions can be discovered, rehearsed, mastered and adapted into lifelong strategies (Russ, 2004).

5.6.7 Importance of Play therapy

- It is difficult for most children below age ten to eleven to sit still for sustained periods of time. Play therapy provides for children's need to be physically active.
- In play, children discharge energy, prepare for life's duties, achieve difficult goals and relieve frustrations.
- As children play, they are expressing the individuality of their personalities and drawing upon inner resources which can become incorporated into their personality. Virginia M. Axline (1974) who developed the child-centered play therapy asserted that:

  "A play experience is therapeutic because it provides a secure relationship between the child and the adult, so that the child has the freedom and room to state himself in his own terms, exactly as he is at the moment in his own way and in his own time. "
- Play therapy helps to actualize the ultimate objectives of elementary schools facilitating the intellectual, emotional, physical and social development of children from the learning opportunities and experiences offered in school.

5.6.8 Objectives of play therapy

- Develop a more positive self-concept
- Assume greater self-responsibility
- Become more self-accepting
- Become more self-directing
- Become more self-reliant
- Become more trusting of self
- Experience a feeling of control
- Become sensitive to the process of coping
- Develop an internal source of evaluation
- Engage in self-determined decision making

5.6.9 Intervention of Playas a therapy results in

- Developing a more positive self-concept
- Assume greater self-responsibility
- Become more self-accepting
- Become more self-directing
- Become more self-reliant
- Become more trusting of self
- Experience a feeling of control
- Become sensitive to the process of coping
- Develop an internal source of evaluation
- Engage in self-determined decision making

5.7 Therapeutic Intervention: Visual Arts and Performing Arts (Music, Drama, Dance, Movement and Sports)

5.7.1 Visual Arts and Performing Arts :

Art reflects human emotions and human beings spontaneously express their frame of

mind through various art forms. Thus the intellectual mind merges with the artistic streak, giving birth to art.

The visual arts are those creations we can look at, such as a drawing or a painting. For example Drawing, painting, sculpture, architecture, photography, film, printmaking.

It also includes the decorative arts of: ceramics, furniture and interior design, jewellery making, metal crafting and wood working.

The literature available for utilizing art education for exceptional students is generally addressed to art education teachers to use in their classroom. However, expanding the use of art in the education of children with special needs into general and special education is advantageous to these individuals. The art educator can evolve to be a resource and perhaps a liaison between the special and general educator. Thus, to improve the education afforded to students with special needs, art can act as a bridge between general, and art educators to enhance the communication and cooperation between these specialists. Creating a cohesive network between art educators, special and general educators, draws upon the unique perspective that each educator has that can help the others in bolstering special education programs.

The visual arts are a powerful teaching tool that can enhance the cognitive, emotional and social development of children. Children in special education programs are particularly in need of the assistance that the arts can provide.

The performing arts range from vocal and instrumental music, dance and theatre to pantomime, sung verse and beyond. They include numerous cultural expressions that reflect human creativity and that are also found, to some extent, in many other intangible cultural heritage domains.

Music is perhaps the most universal of the performing arts and is found in every society, most often as an integral part of other performing art forms and other domains of intangible cultural heritage including rituals, festive events or oral traditions.

5.7.2 Music Therapy

Music therapy is a well-established allied health profession similar to occupational and physical therapy. It consists of using music therapeutically to address behavioral, social, psychological, communicative, physical, sensory-motor, and/or cognitive functioning. Because music therapy is a powerful and non-threatening medium, unique outcomes

are possible. For individuals with diagnoses on the autism spectrum, music therapy provides a unique variety of music experiences in an intentional and developmentally appropriate manner to effect changes in behavior and facilitate development of skills.

Music therapy may include the use of behavioral, biomedical, developmental, educational, humanistic, adaptive music instruction, and/or other models. Music therapy enhances one's quality of life, involving relationships between a qualified music therapist and individual; between one individual and another; between the individual and his / her family; and between the music and the participants. These relationships are structured and adapted through the elements of music to create a positive environment and set the occasion for successful growth.

The interventions used in Music Therapy aid in fostering skills across the entire developmental spectrum for children with special needs. Music Therapists encourage a child's sense of exploration and wonder as they focus on the goals targeted in your child's Individualized Education Program (lEP).

How Does Music Therapy Make a Difference with Young Children?

- Music stimulates all of the senses and involves the child at many levels. This "multi-modal approach" facilitates many developmental skills.
- Quality learning and maximum participation occur when children are permitted to experience the joy of play. The medium of music therapy allows this play to occur naturally and frequently.
- Music is highly motivating, yet it can also have a calming and relaxing effect. Enjoyable music activities are designed to be success-oriented and make children feel better about themselves.
- Music therapy can help a child manage pain and stressful situations.
- Music can encourage socialization, self-expression, communication, and motor development. Because the brain processes music in both hemispheres, music can stimulate cognitive functioning and may be used for remediation of some speech/ language skills.

5.7.3 Drama Therapy

Drama therapy is the intentional use of drama and/or theater processes to achieve therapeutic goals.

Drama therapy is active and experiential. This approach can provide the context for participants to tell their stories, set goals and solve problems, express feelings, or achieve catharsis. Through drama, the depth and breadth of inner experience can be actively explored and interpersonal relationship skills can be enhanced. Participants can expand their repertoire of dramatic roles to find that their own life roles have been strengthened.

5.7.4 Dance / Movement Therapy

Dance/movement therapy, a creative arts therapy, is rooted in the expressive nature of dance itself. Dance is the most fundamental of the arts, involving a direct expression and experience of oneself through the body. It is a basic form of authentic communication, and as such it is an especially effective medium for therapy. Based in the belief that the body, the mind and the spirit are interconnected, dance/movement therapy is defined by the American Dance Therapy Association as "the psychotherapeutic use of movement as a process that furthers the emotional, cognitive, social and physical integration of the individual."

Benefits of Dance and Movement Therapy:

Dance Movement therapy can help children with special needs in varied ways and in all the areas of impairment. The benefits experienced are as follows:

- It helps in improving attention and concentration and thus helps in furthering education
- Dance as a way of expression of emotion enables children to express through movements
- It helps in forming better relation
- Due to liking towards repetitive movements, a therapist can repeat a movement pattern which the patient needs to learn and when they start imitating the movement vocabulary develops.
- This helps them in learning different patterns of movements required for daily life activities

- Group sessions in dance movement therapy enables in developing social skills and communications of autistic person
- Doing a choreographed dance movement sequence in a series of sessions in a row helps in improving memory and recapitulation skills.
- Touch therapy helps in developing trust on others as well as helps in reducing sensitivity to physical contact and touch.
- Dance movement therapy helps in improving body image of an autistic person.

Dance/movement therapists work with individuals of all ages, groups and families in a wide variety of settings. They focus on helping their clients improve self-esteem and body image, develop effective communication skills and relationships, expand their movement vocabulary, gain insight into patterns of behavior, as well as create new options for coping with problems. Movement is the primary medium dance/movement therapists use for observation, assessment, research, therapeutic interaction, and interventions. Dance/movement therapists work in settings that include psychiatric and rehabilitation facilities, schools, nursing homes, drug treatment centers, counseling centers, medical facilities, crisis centers, and wellness and alternative health care centers. Dance/movement therapy can be a powerful tool for stress management and the prevention of physical and mental health problems. Dance/movement therapists integrate the dancer's special knowledge of the body, movement, and expression with the skills of psychotherapy, counseling, and rehabilitation to help individuals with a wide array of treatment needs. Social, emotional, cognitive, and/or physical problems can be addressed through DMT via group and individual sessions in many different types of settings from hospitals and clinics to schools. The fact that dance/movement therapists are immersed in the language of the body, rather than focusing solely on the verbal, lends characteristics to their work that set it apart from other types of therapy.

5.7.5 Sports Activities for Children with Special Needs

All individuals benefit from regular physical activity and children with special needs especially. Children with special needs are benefitted in the following ways from physical or sports activities.

- We can see improvements in muscle strength, coordination, and tlexibility.
- Improve exercise endurance, cardiovascular efficiency, and possibly increased life expectancy .

- Experience better balance, motor skills and body awareness.
- Will show improvement in behavior, academics, self-confidence and building friendships.
- Will have positive changes in their health, quality of life and boost to their self-esteem.
- Gets to experiences a sense of accomplishment and possibly the taste of winning or personal satisfaction.
- Experience increases in attention span, on-task behavior, and level of correct responding.
- Will increase appetite and improve quality or sleep.
- Will see a decrease in secondary health complications like obesity, high blood pressure, low HOL ("good") cholesterol and diabetes.
- Will find an outlet for their physical energy, will help them cope with stress, anxiety and depression.

Sports and activities especially good for special needs children:

- Swimming
- Bicycling
- Soccer
- Football
- Handball
- Gymnastics
- Bocce (is a ball sport)
- Weightlifting

Sports, especially fundamental and movement education based sports like gymnastics, provide tremendous benefits for children with special needs. Physical education programs can considerably improve the lifestyle of a disabled child and are highly recommended. These programs may help control obesity, promote activeness, increase a child's self-image and social skills, and increase motivation. The physical activity along with support,

rewards, and interaction can, among other benefits, be very helpful to these children and their families. Physical Improvements - Children suffering from cognitive disabilities are most likely going to suffer from physical impairments as well. These children have substantial problems with motor skills in areas such as hopping, skipping, and jumping. Involvement in gymnastics can help these individuals develop fundamental motor and physical fitness skills. Self-Esteem - Developing a sense of self-esteem and confidence is an extremely important part of special education. These children need to be involved in environments where they feel that they are contributing successfully to a group. Their abilities in all other skill areas will improve as a result of a positive self-image and confidence. Cognitive Benefits - The hands-on aspect of sports leads to cognitive skill improvement in children with disabilities and allows them to discover and access strengths that cannot be challenged in the traditional classroom setting. The inherent structure of sport, with its organization and rules, can be used as a learning tool for introducing and practicing self regulation and decision making skills. Additionally, children can learn verbal communication and interaction with peers through involvement in sport.

Special Olympics

The mission of Special Olympics is to provide year-round sports training and athletic competition in a variety of Olympic-type sports for children and adults with intellectual disabilities. This gives them continuing opportunities to develop physical fitness, demonstrate courage, experience joy and participate in a sharing of gifts, skills and friendship with their families, other Special Olympics athletes and the community.

- The Special Olympics is the only organization authorized by the International Olympic Committee to use the word "Olympics" worldwide.
- Athletes compete in 32 sports, including snowboarding, judo, cricket, soccer.
- The Specal Olympics program Healthy Athletes offers 1.4 million free health examinations in more than 120 countries to athletes at Special Olympics competitions. Health professionals perform a full exam in the categories of podiatry, physical therapy, audiology, vision, dentistry, physical therapy and more and more.
- More than 3.1 million athletes from over 175 countries take part in the Special Olympics.

- Special Olympics athletes are divided to compete in categories based on gender, age, and ability.
- The Special Olympics athlete oath is "Let me win. But if I cannot win, let me be brave in the attem pt."
- Special Olympics World Games are held every two years, alternating with Summer and Winter Games.

5.8 Let us Sum Up

1. "Occupational therapy is the art and science of directing man's participation in selected tasks to restore, reinforce and enhance the performance, facilitate learning of those skills and functions essential for adaptation and productivity, to diminish or correct pathology and to promote and maintain health." (Council of Standards, American Occupational Therapy Association, 1972).
2. An Occupational Therapist will aim to enable the child to be as physically, psychologically and socially independent as possible. Occupational Therapists work in close partnership with the child and their family, schools and other healthcare professionals. Together they have a shared responsibility for meeting the child's needs. In schools, for example, they evaluate the child's abilities, recommend and provide therapy, modify classroom equipment, and help the child participate as fully as possible in school programs and activities.
3. Occupational therapy interventions for people with intellectual disabilities are specifically adapted to the client with respect to the degree and type of support needed as well as the context. Interventions may include direct treatment as well as environmental adaptations, guidance, monitoring and counseling (including of the family, the educational staff, the clinical staff, employers and others).
4. Physiotherapy has scope in treating a wide range of conditions. It play an important role in all the branches of medical sciences, especially Orthopaedics, Paediatrics, Neurology, Cardio thoracic, Surgery, Sport Medicine etc. In set ups like leprosy, paraplegic and poliomyelitis after plastic surgery, burns clinics, spinal cord injury centres and in assistive devices manufacturing units etc.
5. A speech language pathologist sets broad but specific goals for each of his patients. Specific goals can include helping patients develop clearer speech, learn to use

alternate methods of communication, develop better reading and writing skills, and strengthen throat and neck muscles. Goals also may include coordinating treatment programs with other professionals or referring patients for other treatments. For example, a patient with a swallowing disorder may benefit from the collaborative care of a speech language pathologist and a medical doctor.

6. Yoga is one of the six schools of ancient Indian Philosophy. It is the practice that enables one to achieve higher levels of performance, bringing out the hidden potentials from within. Systematic Yoga practice will increase the physiological and psychological well being.

7. Music therapists involve children in singing, listening, moving, playing, and in creative activities that may help them become better learners. Music therapists work on developing a child's self-awareness, confidence, readiness skills, coping skills, and social behavior and may also provide pain management techniques. They explore which styles of music, techniques and instruments are most effective or motivating for each individual child and expand upon the child's natural, spontaneous play in order to address areas of need.

5.9 Check Your Progress

A.1. What is the difference between Occupational Therapy and Physiotherapy?

2. Explain the objectives of the different therapies applicable for children with special needs?

3. Discuss about Dance and Movement Therapy.

B.1. Discuss about the importance of yoga for children with special needs.

2. Prepare a short note on Therapeutic Application of Drama.

C. After going through the Unit you may like to have further discussions on some points and clari fication on other.

1) Points for Discussion

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2) Points for Clarification

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5.12 References and Further Readings

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মানুষের জ্ঞান ও ভাবকে বইয়ের মধ্যে সঞ্চিত করিবার যে একটা প্রচুর সুবিধা আছে, সে কথা কেহই অস্বীকার করিতে পারে না। কিন্তু সেই সুবিধার দ্বারা মনের স্বাভাবিক শক্তিকে একেবারে আচ্ছন্ন করিয়া ফেলিলে বুদ্ধিকে বাবু করিয়া তোলা হয়।

— রবীন্দ্রনাথ ঠাকুর

ভারতের একটা mission আছে, একটা গৌরবময় ভবিষ্যৎ আছে, সেই ভবিষ্যৎ ভারতের উত্তরাধিকারী আমরাই। নূতন ভারতের মুক্তির ইতিহাস আমরাই রচনা করছি এবং করব। এই বিশ্বাস আছে বলেই আমরা সব দুঃখ কষ্ট সহ্য করতে পারি, অন্ধকারময় বর্তমানকে অগ্রাহ্য করতে পারি, বাস্তবের নিষ্ঠুর সত্যগুলি আদর্শের কঠিন আঘাতে ধূলিসাৎ করতে পারি।

— সুভাষচন্দ্র বসু

Any system of education which ignores Indian conditions, requirements, history and sociology is too unscientific to commend itself to any rational support.

— Subhas Chandra Bose

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Published by : Netaji Subhas Open University, DD-26, Sector-I, Salt Lake, Kolkata-700 064 & Printed at : The Saraswati Printing Works, 2, Guru Prosad Chowdhury Lane, Kolkata 700 006