CHAPTER - II

REVIEW OF RELATED STUDIES
Introduction

The review of published literature is a fruitful source of hypotheses and it help to demonstrate the relationship between completed research and the topics under investigation. Guba and Getzels (1955) had stated thus: "A theoretical frame work sharpens research objectives, suggests what variables should be eliminated as non-meaningful and hence wasteful, increases the likelihood of significant findings, simplifies the complex task of interpreting results, aids in interpreting meaningful even if non-significant results, and makes research cumulative from one study to the next".

The present chapter attempts to review the studies in the area of communication skills of mentally retarded with reference to motor and socio-emotional skills. Several of the studies already done in the field do not deal with the skill in isolation, but include various aspects and causes, and correlates the skills. These factors have been emphasised in the present study wherever the relatedness is significant. Otherwise the attempt has been to present the findings so as to maintain the focus on the five skills, namely, oral, reading, writing and motor and socio-emotional
skills. The literature in the area of the mentally retarded has been increasing in number, particularly in the recent years. But the number of related research studies are not as numerous. Most of the studies merely bring out the low level of attainment of the mentally retarded, which makes them mainly surveys. The effects of strategies on growth and development have not been explained extensively. The paucity of studies in this area is most probably because of the minimal changes that are possible in the mentally retarded. The limited experiences of the earlier research workers and the time factors in longitudinal studies may also have been contributory factors. Comparative studies are even fewer. The studies in this chapter have been organised basically around the five skills under study mentioned earlier, and cross references are confined within study findings.

Level of Functioning of mentally Retarded

Intellectual ability is an important factor which determines the speech and language ability in a child. Piaget (1970) believed that language was a construct of intelligence and Chomsky (1965, 1968) wrote that language development was a result of maturation — meaning, the opening up of the child's genetic capability for the acquisition of language. Jensen (1966) stated that language was the result of reinforcing the child's attempt to imitate
adult speech. As for Anastasi (1958) the human organism was the product of the interaction of heredity and environment, and in the growth process, maturation and learning played a great part, (Cohen, 1971).

The mentally retarded differ from the normal children in intelligence, in the genetic capability for acquisition of all learning and in maturation. And hence it is to be accepted that language development of the mentally retarded is a process that is not only limited but also quite different from that of the normal children.

According to Smith (1974), the language level of the retarded child is below his general age level. Jordan's (1976) study revealed that both the prevalence and severity of speech and language handicaps are generally related to the severity of retardation. The result of Phelp's study (1956) though conducted in the fifties, is applicable for the present study. His sample consisted of 163 educable mentally retarded children whose I.Q was 60. The study was to assess the educational ability of the children. The results showed that the medium reading grade level of those children was 3.9 and medium arithmetic grade level was 4.3. According to Robinson and Robinson (1965, 1976) the optimal level of performance of the educable mentally retarded was fourth or fifth grade work. Bruscia (1981) did a study on short term memory and attention control in an auditory non-
verbal area of 46 institutionalised retarded children between the I.Q 40 and 69. This study revealed that children with higher degree of intelligence (Higher I.Q) performed better than children of low intelligence. The performance of linguistic recall depends on the degree of retardation in the case of mentally retarded individuals.

Krippner (1968) did a study on the etiological factors in reading disability of average and slow learners. He remarked that attempting to teach children without basic physiological foundation for learning is like "process of sinking shafts into sand". For learning a particular skill to the expectation of the teacher the student must have the needed intelligence. Ashman's (1982) study showed that the mentally retarded were significantly less capable than others on sequential processing tasks and in expressive language. He designed a programme for remedial programming for moderately and severely retarded children.

Children with limited intelligence are candidates for a variety of socio-emotional problems according to Hallahan and Kauffman (1978). They stated the importance of pre-school classes for mildly retarded children. The pre-school class can help the mildly retarded to develop the pre-requisites (readiness skill) for the learning of academics. Referring to the communication skills in the moderately retarded (TMR), Hallahan & Kauffman stated that
speech, language, listening and non-verbal skill such as gestures are all likely to be deficient in the moderately retarded child.

**Language Studies of the Mentally Retarded**

Language problems of the mentally retarded were studied by many (Chesaldine & McConkey, 1979, Rohr & Burr, 1978; Guttman & Randal, 1979). All these researchers pinpointed the communication deficits in the mentally retarded children due to poor acquisition of language and improper application of communication skills. According to Hewett (1984) effective communication involved accurate perception and understanding of the speech and language of others and a motivation to communicate with them. Berry (1976), Jones & Robson (1979) and Schefelbusch & Lloyed (1974) have stated that the mentally retarded often have communicative deficiencies.

Brown (1966), and Hagen & Huntsmen (1971) studied the attentional control process under diverse stimular conditions which give cues for training the retarded. Bruscia (1981) did a study on short term memory and attentional control in an auditory non-verbal area of 46 institutionalised retarded children with I.Q between 40 and 69. Their recall ability was compared under two attentional conditions; when presented alone, and when presented with
another simultaneous rhythm. The result showed that short term memory for auditory rhythms varied among the retarded according to (1) I.Q independent of attention condition and (2) attentional condition independent of I.Q. This study revealed that children with higher degree of intelligence (Higher I.Q) performed better than children of low intelligence. The performance of linguistic recall depends on the degree of retardation in the case of mentally retarded individuals. Investigations done by Gibson (1940), Zeaman & House (1963), Fisher & Zeaman (1973) and Wilman (1974) and others projected the retarded persons short term memory deficits and showed that strategies to improve the recall which were evolved, and proved successful.

Abbeduto et al (1988) did a study to find the development of speech act comprehension in Mentally Retarded individuals and non-retarded children. The I.Q of mentally retarded subject was 40-79. The non-retarded subjects were 'average' students selected from regular class rooms. The subjects were tested individually before the programme and also after the programme was implemented. The score showed that the speech act comprehension performance of the retarded subjects was more appropriate for their mental ages rather than for their chronological ages. This emphasised that speech act comprehension depended on cognitive skills. It is possible that the mentally retarded children could
communicate according to their mental age ability.

A study was done by Bilsky et al (1983) on comprehension and recall of sentences by retarded and non-retarded individuals. A used sentence recall task was used to determine the extent at which 24 mildly retarded adolescent and 24 equal M.A non-retarded children differed in their ability to recall sentences, and to infer it and use retrieval cues. The result showed that the mentally retarded performed poorly in sentence recall. But both the groups found general and particular cues to be equally effective retrieval aids for target sentences. Researches done by Crossby & Blatt (1968), Denny (1966) and Goldstein (1943) revealed that mentally retarded were unable to observe continuously certain elements of the stimuli field, that were task relevant. Lack of attention and destructibility had come in the way of their acquisition of language and communication skills.

Clark (1979) in his study has mentioned that non-retarded person's conversation is governed by obviousness rule (i.e., interrogative forms). But in the case of trainables this result may appear doubtful. In mentally retarded person the acquisition of receptive linguistic competence gets delayed according to the studies done by Dewart (1979), Merrill and Mar (1987), causing deficits in speech act comprehension. Recognition of clues and
conversational rules ability to categories the objects, relations and events are poor in their speech act. This may be due to their deficits in cognitive skills. Studies done by Abbeduto (1983), Abbeduto & Rosenberg (1987) also emphasised this factor.

A study done by Natsopulos (1990) on the language behaviour of mildly mentally handicapped and non-retarded children, suggest that the mentally handicapped used the same syntactic information in the comprehension of complement clauses as the non-retarded children. Digit span and verbal I.Q are significantly correlated with non-retarded children's comprehension. Many of the studies done on severely and profoundly handicapped, support the view that they have potentialities to interact, but are unable to do so due to some specific reasons.

Guttman & Randal (1979), Chesaldine & Mcconkey, Kasari et al (1990), and Kernan (1990) on "Comprehension"; Landry (1990) on "Attention process"; and Sudhalter et al (1990) on "Conversational analysis of male Down Syndrome Screen" - all these studies were efforts put in to develop the language and communication skills in the mentally retarded children.

A large number of research studies have been done on memory processing during the past two decades. These studies are directed towards coding, encoding, storage, and
retrieval components of memory defect in the mentally retarded. (Cummins, 1972, 1973, 1979; Ashman 1982; Ashman, Molloy & Das 1981; Gutowski and Chechile Richehard, 1987). It is a very difficult task to quantify the percentage of forgetting due to encoding, storage, or retrieval. But Batchelder & Riefer (1980), and Chechile & Meyer (1976) have developed a technique to separate storage from retrieval failures. Other studies show that a teacher who has the knowledge could apply her techniques to rectify these problems and train the mentally retarded (Mild & Moderate) children in enhancing their communication skills in auditory and visual discriminations.

The study of Becker, Engleman & Thomas (1975) and Engleman (1969) revealed the inability of the mentally retarded to categorise and classify verbal responses. Dale (1978) expressed grossly different patterns of language in severely retarded children. The question is, how do the retarded, structure and mould their linguistic pattern into verbal utterances? This has to be studied in different settings by further research. Perhaps the study done by Black-Cleworth (1978) in natural settings could be further studied for clarification.

Studies were done on the communicative skills of moderately mentally retarded children aged 13 to 14 years (I.Q 40-50) by Zellin and Sabsay. The children were exposed
to a 10 week comprehensive development programme. The children were observed prior to the commencement of the programme, and data collected. During the comprehensive training the children's linguistic behaviour was observed. They were observed in a less structured environment. The results indicated that moderately retarded students did interact with each other. The research indicated that moderately retarded children if given appropriate training could interact verbally. Similar researches were done by Mac Andrew and Edgerton (1966) and Landesman Dwyer and Berkson and Romer (1979). They also found that moderately retarded could do social interaction during their eating time, during watching of television, and during other activities, children interacted by conversational exchanges. This indicated that in a non-structured situation the mentally retarded interacted with their peer group without any hesitation. It can perhaps be inferred that the retarded do have the competence, but they do not express themselves in a group, may be due to some fear that the so called normals are observant of their defects and disabilities.

Maintenance, Generalisation and Verbal Skills

A large number of researches were done on the effects of maintenance and generalization strategies in the mentally retarded. Researches done on educable mentally
retarded (Mildly Retarded) have shown that acquisition and maintenance to an extent is possible. But generalization skills appear to be difficult for them. Burger, Blackman and Tan (1980) did a study on educable children's generalization skills and the result also indicated a failure. The educable mentally retarded children have problems in generalisation. But the studies of Borkowski and Cavanaugh (1980) are encouraging to research students as maintenance was demonstrated and generalization was observed in the teaching strategy taught. The failure of generalization may be due to some factor which has to be intervened. Perhaps the failure in generalisation may be due to our ignorance in studying the problems in details and in the implementation of appropriate strategies. A training strategy to assess the long term maintenance or to promote the generalization of the trained abstraction strategy has to be evolved by further effective programmes, designed to their interests and needs.

A study was done on generalization of verbal abstraction strategies on educable mentally retarded and adolescents by Burger et al (1981). For this study 80 educables were selected randomly, without sensory-motor deficits or severe emotional disturbances. I.Q Test was done, and pre-tests scores were taken. Subjects were given 2 weeks' training after the pre-tests. The subjects were
divided into three groups. One group was put in the self instruction study, second in the modelling, and the third in the relevant condition study. The responses in the items on maintenance and generalization were measured and analysed by co-variance. The post-test maintenance scores were significantly higher than the pre-test scores. The study revealed that subjects in all three training conditions were superior in generalizing, to those in the control group.

A study was done by Wacker et al (1980) on acquisition, generalization, and maintenance, on four T.M.R. children. They were taught to verbalize the steps in the designated sequence before actually assembling the objects. Data were collected on their performance in both the training setting and in the regular classroom. Maintenance sessions were also recorded. Each child rapidly acquired the target behaviour in the treatment setting and was successful in generalising and maintaining the behaviour in an extra treatment setting. Verbal as well as non-verbal components were used to teach sequential assembly task.

Schiefelbusch (1978); Hart and Risly (1976); and Harris (1975) have done an in depth study in language acquisition and generalization in structured environment situation and natural environment. It was proved that techniques like systematic arrangement could help better to increase the rate of language acquisition and generalisation
of new skills especially with severely retarded in the natural environment. Research was done by Saizberg and Villani (1983) to find the effects of parent training on generalization on two mothers and their two children (M.A 52 and 64 months). Pre-testing was done and intervention was implemented. The parents were given sufficient information about the programme. The interaction at home and pre-school class were recorded. This study provided evidences for a generalization training strategy that does not need direct home intervention. The children improved in school setting. But no non-current changes in parent or child behaviour was observed. Lova's (1977) study revealed that parental involvement in naturalistic environment, that is, daily working with the severely retarded, can improve their language and communication. Studies done by Roberts and Forehand (1977) showed that parents extended their use of behavioural procedure from the clinic to the home without direct intervention. However, they did not isolate the specific variables that produced that effect.

Reading

Dorry and Zeaman (1975) did a study on four equated groups of moderately (TMR) retarded children. They were trained on a simple eight word reading vocabulary, each under different experimental condition Pre-test scores were
taken. Picture recognition pre-training, was given for identification of picture, meant for the test. The training was done with vocabulary and pictures. The picture was faded and it was found that the attention value of the words increased after the fading, yielding better results.

Gottardo (1991) studied the language analysis skills of children with mental retardation. The subjects aged around 15 were grouped by method of reading instruction. The results suggested that code emphasis reading instruction for subjects with mental retardation would be effective.

Fucm (1992) did a study to find the effect of expert system consultation within curriculum based measurement using a reading maze task. The study assessed the effects of expert system instructional consultation within curriculum based measurement (CBM). Thirty three special educators and 63 students with mild to moderate children (EMR and TMR) were randomly grouped into three groups: CBM with expert system instructional consultation; CBM with no consultation; and control without CBM. The CBM teachers implemented a CBM system for 17 weeks. The results indicated that the students in both CBM groups achieved reading skills in fluency and comprehension, higher than the control group.

Krippner (1968) studied the etiological factors in
reading disability of academically talented, compared with that of average and slow learners. Organic disorders were due to the disorders in the central nervous system or, in the endocrine system. Social, emotional, educational, or cultural handicaps were referred to as functional disorders according to the above study. Krippner stated that attempting to teach reading to children with physiological problems is a process of "sinking shafts into sand", if the basic physiological foundations for learning do not exist. Satisfactory auditory discrimination must be present before a child can memorise whole words. A child must know the difference between words, "was" and "saw". The reading disability could be related to socio-economic, psychological, educational and physical factors. Many such factors could be either improved or rectified by appropriate techniques.

Studies done by Allington (1980), Gumperz & Hernandez, and Chavez (1972) showed that during oral reading, teachers were more careful in correcting the mistakes rather than in the children's correct reading. The correctness in reading is very important. Delayed attention to correct reading mistakes produced better performance, than immediate correction. Singh et al (1985) did a study to find the effect of oral reading of-delayed correction, and immediate correction. Two boys and two girls, (I.Q 50-60) moderately
retarded, were selected. Their reading age was measured and baseline was found. Intervention was introduced and data was collected after the intervention. It was found that the delayed correction had greater effect than the immediate correction on both measures. Later in a remediation phase, only the delayed treatment was given. Uncorrected errors remained at low levels whereas self correction generally increased.

For the recall of a small sentence, the mentally retarded have to comprehend the sentence and its meaning. Trainable mentally retarded do exhibit difficulties in by-hearting the meaning of sentences. Researchers consider this problem as an evidence indicating that constructive, inferential process play a central role in comprehension and memory. Particular retrieval cues produce better recall. According to Anderson et al (1973) this problem may be due to the interpretation of meaning of what we hear or read, or storing a representation of that meaning. The acquisition of meaning of what we hear or read, and the efficiency of storing representation of that meaning is very essential (Garrod and Sariford, 1977). Researches were done on severely retarded children's free recall of list of words and sign labels, by Bowler et al (1990), by teaching appropriate attention-getting behaviour to young children with severe handicap. Study done by Harris (1975) on
severely retarded, and study done by Blyden (1989), on survival words acquisition in mentally retarded adults who were multiple handicapped, indicated that appropriate language intervention can enhance communication skills even in severely retarded.

Earlier studies revealed that certain broad generalization may be drawn concerning the relationships that existed between reading and speech. They included neurological lesion in the language centre, inadequacy of auditory association and discrimination, speech defects that occur due to reading failure and vice versa, and influence of emotional reaction in reading difficulty. Ezells. (1989), studied the effects of verbal imitation on the comprehension of novel object-location responses and subsequent transfer of these responses to production. Findings suggested that moderately mentally retarded could use imitation for both generalization and receptive languages and transfer the responses to production. Communication skill enhancement takes place when a mentally retarded child learns to do functional reading. This is possible only when he is exposed to repetitive language learning situations by individualized training.

A number of studies have revealed a strong relationship between simultaneous and successive cognitive process, and certain reading skills (Das, 1973; Cumins and
Das, 1977; Kirby and Das, 1977; Das and Cumins, 1978; Das Kirby and Jarman, 1979). It has been found that the reading skills of the less skilled readers who are not mentally retarded are related to both simultaneous and successive synthesis (Kirby & Das 1977).

Barudin (1990) investigated the relative effectiveness of three methods of reading instruction in developing specific recall and transfer skills in moderate (TMR) and severely retarded children. The three methods used were sign word fading, tactile, and kinesthetic methods. Though the methods were good, no one experimental condition was superior to the other, and no significant differences were found in the acquisition of reading skills.

The study of Careby et al (1990) on examination of the reading performance of students with mild educational handicap or learning disabilities showed that there were no overate significant differences between mild educational handicaps and the samples from learning disabilities. This study showed that mildly retarded could fare well in word recognition and not much in comprehension.

Frank (1990) did a case study on three mildly retarded children for a period of four months. The study showed that the three children improved in the number of words read correctly per minute, although the specific skill developed in each child was different.
Ellis et al (1989) did a study on automatic effortful processing and cognitive inertia in persons with retardation, to find the automatic effortful processing in persons with mental retardation and in normal students. The effects showed automalization of suppression at about the same rate, but the automalized responses had far greater and more durable suppression effects for retarded subjects. This persistence of automalized response which were no longer adaptive was described as cognitive inertia. Similar study was done by Felton (1989) to find the cognitive deficits in reading disability and attention deficits. The result indicated cognitive deficits associated with reading problems. The effects of attentional deficits were more variable and complex but were clearly separate from the reading problem effects.

Dyson (1989) did a study on a single child with prader-willi syndrome and found changes in her phonologic process. The Individualized training could have been more effective in the absence of treatment. The study of Forbes (1988) on "A song for David" was found effective in teaching communication skills to an individual child, through sign language and communication boards.

Worrall and Singh (1983) did a study to find the relativeness of teaching TMR children to read. He selected 40 TMR children who were between 12 and 14 years old. Their
mental ages were between 2 and 5.5 years. Pre-test scores were taken and the children were introduced to recognition and transfer training. The group of children were individually guided by the teacher over a period of 26 weeks. Tests after training indicated that 75% of the rubus symbols and 78% of the cued words were receiving correct responses. The absence of significant difference was useful finding, since it meant that even in the case of TMR children, the greater abstractness of the cued version was not a disadvantage. Lacono (1989) advocated the use of microcomputers for effective teaching of communication skills in the mentally retarded children. Computer Assisted Instruction (CAI) could enhance better Individualised Training Programme. Computers can also serve to motivate the learner by the inclusion of graphics, and sound stimulates. This could hold interest and attention in the learners and could provide feedback to the learner. The learner becomes directly responsible for his/her own individual interaction with the computer (Gow et al 1985; Gradden and Gare, 1983).

Hoogeveen (1989) intended to find the efficiency of a program for teaching moderately retarded children's basic reading skills on an Individual basis. Phonetic alphabet and pictorial cues and stimulus manipulation techniques were used. Generalization tests revealed that all the subjects were capable of reading untrained words of the
same complexity as those previously trained. They could read and understand simple sentences. The training was done individually giving 35 hours per subject. The effectiveness of the technique and the individualized approach may be the reason for the effectiveness. The study of Ault (1988) also emphasised the effect of teaching procedures in the enhancement of reading skills.

Snell (1988) recommended curriculum and methodology for individuals with disabilities. The concrete application of methods applicable for each individual's needs could enhance the communication abilities in the mentally retarded children.

Desai's (1988) study recommended the need of Individualized Instruction in school and listed out the efficiency of Individualized Instruction. He also emphasised the importance of planning Individualized Instruction.

Blyden's (1989) study on the effect of color reversed stimulus material, proved effective in teaching survival vocabulary to mentally retarded with multiple handicaps. Gast (1988) also did a similar study in teaching moderately retarded, by least prompting procedures, to read food words, found in grocery stores. The result indicated gains in the learning. It was a comparative study of constant delay and system of least prompts, in teaching sight word reading.
Language intervention software package was developed by "Peal software" which will be useful for the children from 14 months. This package included programmes in play, action/music, explorating play, representation play, and key talk and learning pads with learning programme. Audio and visual reinforcement are programmable to allow independent and self-paced learning. Language could be taught to mentally retarded children. The various computer techniques made communication quicker, programming simpler, and speech more easy to be taught. Fishman (1988) has done a similar study which described electronic communication aids for the enhancement of communication skills. Educational software could be tried in India on a trial basis for the enhancement of communication skills and for other survival skills. In reading technique, spell and tell and tell and spell, was introduced by "Deltaflor Computer Service" to help children to communicate better. Softwares which help the mentally retarded children to learn reading and writing are in use in western countries.

Many of the research studies have been consistently emphasising that the retarded readers are deficient on tasks such as decoding accuracy, decoding speed, perception of orthographic regularity, segmenting and constructing semantic representations (Guthrie & Tyler 1978). In the case of EMR, auditory memory alone was the
better predictor for reading (Blackman & Burger, 1972).

Writing

Very few researches were done regarding the writing skill in the mentally retarded. Crew (1988) did a study on the performance of students classified as educable mentally handicapped on Florida's State Student Assessment Test. This study was an expost description of the performance of 300 students, classified as EMR handicapped. Data was collected on the students' initial effort to pass the State Student Assessment Test, Part II (SSAT II). The findings of this study indicated that educable mentally retarded fared significantly lower than other students in reading and writing.

Grossman (1983) reported that the sequence in which the mentally retarded learned new skills was the same as in normal children, except that it was slow or delayed. The study of Graham and Harris (1988) provided instructional recommendations for effective writing programs. The current level knowledge of the student's writing capabilities has to be studied before instruction is implemented. Johnson and Myklebust (1967) emphasised the effectiveness in teaching the retarded, and the selection of appropriate training methods of teaching to match their ways of learning process. Otherwise the teaching remained ineffective.
Intensive training was given to severely retarded persons to sign interactively through the use of a behavioural script by Sommer et al (1988). It was a teaching programme and a behavioural script specifying the responses to be made was employed. The result indicated that participants showed an increase in their signing skills in a training play situation. Generalization and maintenance of the skills were found to last for two to four months. But the study done by Crew (1988) to find the performances of students classified as educable mentally handicapped indicated that the students fared significantly low in reading and writing.

Bos (1988) did a study to find the effects of process-oriented writing instructions for mildly (EMR) handicapped students. Process-oriented approaches to the teaching of writing had gained considerable influence in the last decade. The study recommended six instructional features which can be successfully implemented in the teaching of writing to the EMR children.

Engler's (1988) study presented details of writing difficulties, and recommended instructional issues related to the teaching of expository writing in consideration of the metacognitive knowledge. Expository writing approach and teacher modelling were commended for the improvement of writing skills.
Graham and Haris's (1988) study also presented instructional recommendations based on current conceptualizations of the writing process, effective principles of writing instructions, and a knowledge about the child's writing ability skill.

Vacc's (1987) study on "Word Processor versus Handwriting", was a comparative study of writing samples produced by mildly mentally handicapped students. The results showed that the students spent significantly more time, and did more revisions when writing letters on a computer. The mean number of words written, per unit of time spent, completing a letter was higher for subjects' handwritten letters. The judge's evaluation showed that the letter quality did not differ significantly between the two types of production words.

Studies on I.E.P

Jacobson (1987) did a study to find the Individual Programme plan goal content, in developmental disabilities Programme. The study was a comparison of three groups to find the relationship between intellectual level and variations in goal plan content. 170 persons living in New York institutional and community programmes, 198 persons in Pensylvania's Community Residential Programmes, and 1,275 residents of Tennesse's Institutions were samples for the
The findings suggested that goal plan content varied as a function of intellectual level in all the three groups.

Colozzi et al. (1986) did a study on a 12-year-old student with moderate special educational needs. The child was integrated in a regular 5th and 6th grade classroom for 2 half-hour study periods. The regular classroom teacher successfully implemented a program for disruptive vocalization. The student improved from her integration program. The study recommended close collaboration of both special and regular classroom teachers. This can be taken as an indication of EMR acquiring better skills in regular schools if integrated, supervised, and helped by special teachers.

Weisonfold, Richard (1986) did a study to investigate the effect of IEP on Down syndrome children as a content analysis. This investigation reviewed the IEP of 41 Down Syndrome children to find out (1) whether the required elements were present in the IEP and (2) to find whether or not long and short term goals and objectives were written in measurable terms. The results advocated the need to strengthen the abilities of school personnel to plan and write educational programs for the handicapped. The study recommended the limitation of the number of goals and objectives included in the programme.

In 1988, Fleming did a study on individualised
plan for a change. This study was intended to find the effectiveness of individual programme planning. A sample of 85 mentally retarded persons were selected. Pre-test assessment was done by using Check lists. The skills and training needs of each individual were taken. A detailed management plan was set up by fixing goals according to their priorities. Each goal was a statement of intent about what the individual will achieve and was time limited, unambiguous and unaccountable. A total of 286 goals were specified with an average of 3.36 per person. Evaluation showed that, just under half the goals were successfully achieved, while a little more practice was needed in the time allotted in the case of the rest. A significant portion was not achieved. The staff felt that this situation could have been improved if they had better confidence in their work, and if the adults had played their roles in an active way.

In 1988 Montgomery et al did a study on individual programme planning for 11 men aged from 22 to 45 years with severe mental handicap, and had behaviour problems. A questionnaire was used for assessment, and appropriate objectives were set for training. A total of 172 objectives were set for implementation over a period of six months. After implementing it the score was analysed. Evaluation was done and was found that 76% of the objective set were
successfully achieved after six months. The success of the objectives was studied. It was found that certain types of objectives were more readily achieved than others, and that further thought needed to be given to the aspects of multi disciplinary system. The staff felt that this system should be used for better improvement and training of behavioural problems in the mentally handicapped. Desai (1988) in his study discussed the need and effect of individualised instruction in schools for the handicapped and listed out reasons for the needs.

Motor

The purpose of training or education of a mentally retarded child is to rehabilitate him comfortably in the society as a wage earning member whether in a sheltered workshop situation or in an open placement situation. For a successful vocational behaviour, communication skills and motor skills play an important role and the enhancement of motor skills is a very important factor that contribute greatly in the communication development. A large body of early research results, right from the time of Itard, Seguin and Montessori are available on the motor learning literature. Berkson (1960), Maisto & Sipe (1980), and Baumeister, Hawkins & Holland (1966), did studies relating to reaction time, and learning paradigms involving motor
tasks. The studies revealed that motor skills were related to learning behaviour. Motor learning is the most crucial one in the course of the child's early development. According to Kephart (1960, 1963a, 1963c) and Piaget (1952, 1954) motor generalization provides us with a fundamental perceptual-cognitive structure which allows us to organise, interpret, and manipulate the objects world meaningfully and adequately. Buininks (1974) studied the relationship between the mental deficits and performance on a wide range of motor abilities. Generally, the lower the level of mental functioning, the lower and more variable the performance on a variety of motor skills. Many studies showed that the cognitive elements were related to behaviour.

Scholttmmann and Anderson (1982) did a study on 200 institutionalised mentally retarded over a period of 3 years. There were 127 mentally retarded boys, and 73 retarded girls (200 on all). They were residents of a mentally retarded children's school in United States. Their mean age at the beginning of the study was 13.1 years. They were grouped according to their level of retardation after administering intelligence tests. The 200 children were made up of 47 profoundly retarded (IQ below 19); 53 severely retarded (IQ 20 to 35); 70 moderately retarded (IQ 36-51); and 30 mildly retarded (IQ 52-67). A Developmental Record containing 20 variables of behaviours were rated. They were,
self care, eating, toileting, grooming, hygiene, perceptual motor, fine and gross motor skills, perceptual skills, social peer relationships, arithmetic figures, verbal communication, concepts, reading and writing; self direction-travel recreation, domestic, and vocational shopping, economic, and health skills. The rating on each of the total 20 variable in the scale ranged according to increasing functional independence. Each child was rated 3 times annually during a 3 year period, by a multi disciplinary group. Intelligence test was administered after 3 months. The results showed that general development accounted for most of the variables in Developmental Record rating. The accuracy of prediction may be impaired by specific training programme designed to improve skills in certain areas. The study done by Lock Wood (1979) showed that an individualised sequential motor development programme resulted in gross-motor skills gain, by a severely retarded group.

Labato, Barrera and Feldmen (1981) of the University of Massachusetts did a study on the sensory-motor functioning and prelinguistic communication of severely and profoundly retarded individuals. These children were functioning at various stages of Piaget's sensori motor period and they were given test scale of Uzgiris and Hunt (1975) to determine the level of sensori motor functioning.
A standard set of communication elicitation task was also given. The result of the study was designed for future language intervention programme and to find the relation between language and cognition. The major goal of the study was to identify the nature of the relationship between cognitive and communicative performance of severely and profoundly retarded individuals. Nineteen males and 21 females aged 5.25 to 18.75 years (mean-13.17) were selected. Initial report was established prior to testing by spending 30 minutes interacting individually with subjects in their familiar environment. Sensori motor and communication assessment was given individually. Sensori motor assessment was done by giving five scales from the Uzgiris and Hunt (1975). Each test was given twice. Communication assessment was administered via the 2 elicitation tasks described by Snyder (1978). The experimenter acted as model and gave stimulus during intervention. Behaviour described by Piaget (1952, 1954, 1962) as reflecting the attainments of each sensori motor stage was used by experimenter and each subject's general sensori motor stage was obtained by computing the mean of the main scores. In communication assessment the developmental sequence of communication, of Bates et al (1977), Bates Gamaiohi and Valterra (1975), Snyder (1978) and Sugarman were used. The subject's responses to each task was assigned a score. The results...
showed that scores increased systematically with level of sensori motor functioning. Post hoc comparisons between sensori motor groups indicated that the mean communication score differed significantly from subjects performing at more than one sensori motor stage. Communication scores for subjects at stage VI (of Piaget) were significantly higher than those for subjects at stage IV, and so on. This was done by analysis of variance and chi-square. The result suggested that the correspondence between sensori motor and communicative functioning may be relatively independent of C.A., severity and etiology of retardation. The results of analysis of variance indicated positive relationship between sensori motor and communication skills. The study was done on individual base.

A study on laterality and motor skills on four year old, done by Tan of Melbourne college of advanced Education, indicated the usefulness of early motor training for better performance in related tasks. He reported that left handers obtained lower scores than right-handers, and that motor development needed to be considered particularly in the early years of learning. This study was intended to investigate whether handedness was related to motor competence in pre-school children. The sample for the study was made up of forty one left handers (LH). Out of this, 21 were boys and 20 were girls. Another group of twenty three
children with no hand preference (NH) (18 boys and 5 girls) was obtained from a different population of 512 children. A third group of 64 pairs matched for sex, age and pre-school differing in hand preference were also selected. Their age ranged from 48.0 to 60.1 months; with a mean of 55.5 months. Pre-school Handedness Inventory (PHI) devised by the investigator, was employed to assess handedness. The tasks assigned were (1) open and close a packet of pens (2) remove and replace a pen in the packet (3) draw (4) cut with scissors (5) hammer (6) pour from a jug (7) point while counting (8) insert beans singly in a bottle (9) wind a spool (10) build a tower of cubes (11) select one subject from a group (12) catch and (13) throw a bean bag with one hand. All children used the same equipment. Performance of each task was observed and scored; 0 = (right), 1 = (both) and 2 = (left). The motor scale of McCarthy Scales (1972) was used to assess motor ability. It consisted of leg co-ordination, arm co-ordination imitative action (gross motor), copying drawn shapes, and drawing a child (fine motor). A pre-school fine motor scale (PFMS) which was devised, helped the investigator to assess a wide range of fine motor skills. The teacher observed the children in their centre over a 2-3 week period to identify any one who lacked a definite right hand preference. The PHI and PFMS test were administered after implementing the tasks for 4-5
months to the children. Statistical analysis using t-test for matched pairs was undertaken for motor scores. The study suggested that children who established handedness early, were better co-ordinated than those who might establish it later or not at all. The educational implication of the poor performance of NH children could mean that poor motor function could lead to poor learning skills. The lack of hand preference may serve as a marker indicating children who need special assistance with the development of motor skills. Such children should be identified as early as possible, and remedial programme should be given at preschool level. To specify clearly, a well co-ordinated motor could help children to do better tasks. Motor training was very important in relation to learning situation especially communication, social interaction, and functional academics.

For assessing various skills in the mentally retarded children, functional analysis of behaviour is applicable which has a criterion referenced approach (Howell, Kaplan & O'Connell, 1979). This approach gained increasing importance in the past few years in the field of mental retardation, according to Gardner (1971), and Lovitt (1976). The functional analysis of behaviour is focused upon objective based assessment techniques, usually with non-commitment implication for individualized instructional programme, and for development of motor skills. (Haywood,
Filler, Shiftman & Chaleanant, 1975). This is very useful for special educator in classroom situations as it gives detailed information about the behaviours.

Research on motor learning with non-retarded and mildly retarded children has generally substantiated the desirability of implementing multi-sensori instructional strategies (Avenhein) and verbal prompting, followed by physical prompting advocated for promoting active movement (Avenhein & Sinclair, 1975). A meaningful and organised research which deals with effectiveness of multi-sensory, modelling manual guidance, and verbal instruction strategies for testing and teaching of adaptive skills with moderately retarded children was found effective (Mercer and Snell, 1977). Their study also supported appropriate strategies for testing and use of effective techniques for teaching self-help, motor and pre-academic skill, through scientific knowledge.

Ilmer and Drews (1980) did a study on prompts and neurological variables in motor assessment of moderately retarded children. The subjects selected were 40 moderately retarded children (20 males and 20 females), and their C.A. ranged from 5.66 to 14.83 years with a mean of 10.42. I.Q was tested and the mean IQ was 42.58. They were assigned to one of the following four treatment groups: Multisensory prompt, Physical prompt, Modelling prompt and Verbal prompt.
The level of orthopaedic function for each subject was assessed through clinical ways. A two-way factorial replication design was used to provide a measure of the stability of the subject's motor performance between two experimental testing sessions separated by an interval of 2 weeks. Developmental tasks were used in this test. Under multisensori prompt, children were given one verbal prompt, one modelling prompt, and one physical prompt, prior to attempting to perform each test item independently. If the subject initiated a correct response within 20 seconds, the experimenter recorded a correct score for the given test items. In the physical prompt treatment group, each subject was administered three successive physical prompts before attempting to perform each test item independently. In the model prompt the subjects received three successive modelling prompts prior to attempting to perform each item. In verbal prompt the subject received three verbal prompts in succession for each test item before the item is done independently. Subject's level of gross motor performance was measured by the total number of correct responses obtained from the administration of all 32 items which were assigned. The data was analysed by factorial analysis and analysis of covariance. The results showed that multisensori treatment as the most effective assessment strategy with youngest children. The motor performance scores in the
testing showed a significantly high degree of stability. The significant inter relationship identified between the subject levels of reflex development and voluntary motor performance was a major finding of this study. concomitantly a design of future research strategies for assessing the voluntary motor performance of moderately retarded children should also be considered for future research. The strategy used for the study would be applied in class situations easily.

The above study gave emphasis to individual assessment, and also evaluation individually. The result of this study lent support to the contention that inter disciplinary collaboration will help to solve the problem in motor development of the retarded children.

The study done by Beasley (1982) showed that retarded persons could be made better wage earners if appropriate motor enhancement programme was given effectively at an early stage. The study was intended to find the positive effect of cardiovascular conditioning on the work performance by jogging programme. For this study thirty mentally retarded adults (Educables and trainables) were selected at random and assigned to experimental and control group, with 15 subjects in each group. Specific criteria for selection was required. IQ, sex and C.A were taken care of. 12 minute Run Walk Test (Cooper Test) was
selected for post test fitness measure. Work performance was measured by a subject's rate of production on the assembly of heat clips, which involved tightening a screw in the thread (1.27 cm x L 54 cm) of a metal clip placed with a frame called jig. Work performance was defined by the total weight of the assemblies, completed within 20 minutes time period. Absenteeism was measured by the number of full days a subject was absent, during the 9 week experimental period. Pre-treatment data was collected on each dependent variable. All subjects participated in stretching exercise for 5 minutes, per day. These exercises included arm swinging, toe-touching, and stretching. Subjects in the experimental group participated in a jogging programme and control group played leisure games during this period. A statistically significant difference was found in the experimental and control group on the Cooper Test.

The result of the study demonstrated that a jogging programme of approximately 30 minutes per day was effective in increasing both cardiovascular fitness and work performance. The enhancement of motor skill through physical fitness training given to each individual enhanced their work performance.

Socio-emotional factors

The study done by Romer and Heller (1982) and
Gollay et al (1978) showed that stable friendships in the mentally retarded were associated with better social adjustment, and that peer social behaviour was a good predictor for vocational behaviour. Melstrom's (1982) observational study showed that persons who demonstrated higher rates of social interactions were better wage earners and were fit for competitive employment. Heller's (1982) review of residential allocation literature showed that disturbance in peer relationship was a key factor in poor social adjustments. Berkson & Romer (1980) suggested that peer relationship should be taken care of when individuals are transferred from one residential setting to another.

Impact of socio-emotional factors in the development of communication skill has been studied by many researches. Studies done by Carman and Gottieb (1979), MacMillan & Morrison (1984) and Semmel, Gottieb and Robinson (1979) have established that the mildly mentally handicapped were not popular with their non-handicapped peers. The cause of rejection or non-acceptance was due to their personal 'trials' of the mildly retarded and the critical characteristics of their environment. Gottieb, Semmel & Veldmen (1978), and Morrison and Borthwick (1984), gave emphasis on the behavioural and cognitive patterns. Greenspan's (1979) study pointed out the social cognitive abilities in the mentally retarded. Social perception was
given emphasis in the study of Gerber & Zinkgraf (1982). Morrison, Forness and Mac Millan (1983) and Victor and Halverson (1980) studied the teachers and peers as mediators in the perception of the abilities and behaviours of these children. Placement of mildly retarded children in regular classroom or resource classroom, contributed to social and psychological factors according to the study done by Stangvik (1979). Garrett & Crumpt (1980) recommended that mildly retarded should learn to do self evaluation and bring positive changes in their social behaviour. Morrison's study (1981) emphasised that their social status changed according to the classroom administrative set up. Most of the studies showed to an extent that mildly retarded children were poor in assessing their own social status. The social and the emotional problems that the mildly retarded, and retarded in general, face can be solved by changing the perception of the child. The studies also showed that training about self and the expectations of the environment, through imparting individualised training and education for development of social skills must be emphasised. If the retarded could get along well in the environment the consequences would be more favourable according to the study done by Feather (1975). The child should learn to face reality to fit into the environment. In the non-handicapped peer group, the stress and strain faced by the retarded due to absence of the
behaviours in accordance with the age are traumatic.

The study done by Morrison (1985) investigated the notion, "person versus environment" as it applied to the socio empathy and social status relationship for mildly handicapped children in the mainstreamed and special class settings. For this study, eighty five mildly retarded, and 234 non-handicapped children from six schools in California were selected. 27 Mildly handicapped attended self contained integrated day classes, 12 mildly retarded attended resource room programme, and 46 of them were put into special education settings. The social status instrument "How I feel towards others" (HIPTO) was administered to all the children (both mildly retarded and non-handicapped). Questionnaires were filled out by handicapped and the non-handicapped children about each other. Scores were analysed by cluster analysis and multivariate technique. The analysis for social acceptance illustrated that those children who were accurate estimators of their own social status were more popular than children who either under estimated or over estimated their social status. It was also found that chances for a good fit for mildly retarded children were greater in the special class environment than they were in the regular class setting, although the same was less so for resource room children. The study indicated that environment must provide opportunities for better understanding, and provide
opportunities for social relationship by interacting with the mildly retarded. Curriculum must emphasise the development of social skills.

Studies done by Glidewell, Kantor, Smith, and Stringer (1966) showed that social structure of the classroom peer group, contributed to a great extent to the individual child's self-esteem and general mental health. The study further emphasised that children who were intelligent, attractive, or with intact emotional development are likely to use the peer group to the maximum advantage for enhancing their own social and academic growth. The children who were not so were often victims of the environment. The studies of Schmuck & Egmond (1965) and Stipek & Weisz (1981) showed that social low esteemed children get demoralized and the negative approach affected their academic performance adversely. The study done by Conttrell (1972) on social facilitation predicted that when academically handicapped children were placed in mainstreamed environments, performance level will deteriorate. This was because of the presence of competent individuals in the environment with whom they could not cope up.

Gottlieb (1982) studied the social facilitation influences on the oral reading performance of academically handicapped children. Twenty four academically handicapped
children (10 girls-14 boys) ranging from 9.17 to 12.83 years and seventy two non-handicapped children in grade-3 through 6, severed as audience in the group, in the group evaluation condition. Another seventy two non-reading kindergarten children were randomly selected as audience in the group to evaluate condition. Data was selected and treatment was given in various settings. The results showed that children on the evaluation group made significant errors in reading than did children in the no evaluation condition. The mildly (FMR) retarded could perform better reading if they are with their own group or with younger children. This was due to their poor social esteem and poor behaviour they exhibited with children of superior academic ability, who will be very observant about the mentally handicapped and their mal-adaptive behaviours.

Green, Forehand, Beck and Vosk (1980) did a study on the relationship of children's social competence and children's academic achievement. They pointed out that social competence must be assessed from three perspectives: (1) from the view point of class teachers (2) peer's view point (3) view point of self. The study was done on one hundred and sixteen children, age ranging from 8.40 to 11.60 years. Data was selected by using checklists and socio metric measure in the areas of self-report, behaviour, academic achievement, and teacher attitude. The academic
score in reading, maths, and language were calculated by summing the scores for the three academic subjects. The academic achievers were found more accepted and less rejected and disliked by peers. They were viewed by teachers as less deviant, engaged in more positive interaction with peers, than those who were low achievers. It was also found that the disliked children did less on task, and engaged in less positive peer interaction, than the liked children. The accepted children had fewer wishes, higher teacher estimates peer liking, and lower withdrawal problems. The variables in this study indicated that the rejection may be due to poor sociability and less interaction with teachers.

Social skills training and social ecological support are the two major approaches in imparting social adjustments in the mentally retarded. According to ecological approach the goal is to determine the environment that fits the needs and goals of the individuals for whom they are appropriate. Many studies supported this view. The study done by Gottlieb (1981) showed the importance of peer relationship in the adjustment of non-disabled adults. This approach helped people to get adjusted in stress or threats. This could be applied in the case of mentally retarded persons. The study done by Romer and Heller (1983) on social adaptation of mentally retarded adults in community settings was encouraging. Social-ecological approach gave positive
results on the effectiveness of social skill training programme, by using modelling, social reinforcement, feedback, coaching instrumental social skills, role playing and the like. The effect of peer interaction support was found to be very effective in the environment.

Most of the social adaptation studies on mainstreamed children showed that mentally handicapped children performed poorly with their non-handicapped peers. Studies done by Asher, Hymel and Renshaw (1984), William and Asher (1987) and Parkhurst and Asher (1987) showed that peer rejected children were more lonely and socially dissatisfied, than children of popular, average, neglected or controversial status. The social difficulties faced by rejection, and idleness were studied by many. According to Rubin; Mare and Lollis (1987) the pathways to peer rejection were due to high aggressive and disruptive behaviour, extreme level of withdrawal apprehension, and insecurity.

Taylor, Asher and William (1987) did a study to assess the social adaptation of mainstreamed children with regular school children. Thirty four educable mentally retarded children (19M, 15F) with an average I.Q range from 47-80 were selected. The comparison sample consisted of thirty four non-retarded children. All the children were assessed in sociometric status, peer assessment behaviour, peer relationship, satisfaction and game playing situations.
After collecting the score, multi-variate analysis was done. According to the results, the experiences of educable mentally retarded children suggested that there was cause for concern about the social skill problems which interfere with satisfying peer relationship. Their interaction with the peer group was quiet and poor. Their inability to interact orally or in other communicative means was found to be limited. Studies done by Greenspam & Showulz (1981) Greenspam and Showulz and Weit (1981), showed that an alarming number of mentally retarded persons have been terminated from competitive employment due to social or vocational incompetence. Training Mentally Retarded in self instruction (verbally, directly, oneself was found to be useful in participation in employment situations according to Gifford et al (1984). One has to use verbal direction on self.

Study done by Rusch et al (1985) showed that persons with sufficient language for communication could be trained in self instruction strategy, to maintain their goals even in competitive employment. Pre-test and post test done in his subjects who were mentally retarded showed that self-instruction package was found useful in their goal performance. The research recommend the need to consider individual difference in the development of social skills intervention programme for educable mentally retarded
The attempt to mainstream mentally handicapped children seems to have raised a question mark with regard to the mentally handicapped's social interaction or their acceptance by the non-retarded. Negative experience created negative reaction in the students' minds. Research done on mainstreaming of mentally retarded and emotionally disturbed showed that they behaved in a less friendly and more anxious manner that in the control group condition. The non-retarded kept a social distance according to this study. Another study by Nagendra (1989) on integrated approach with yoga as a therapeutic goal, was done on 45 children for one academic year. Data collected before and after yogic training with a control group was studied. The result showed significant improvement in the social adaptation, in the experimental group. The lack of effective social skill in the mentally retarded children came in their way of interacting with the environment causing poor communication skills.

Freedman, Wynagarden and Kurtz (1978) and Landesman Dwyer (1981) emphasised the importance of social adjustment as a factor in successful adjustment to community life. Social skill training can be imparted by identifying social skill deficiencies and remedying them. Training in acquisition of good behaviour and erasing maladaptive behaviour could help the mentally retarded to improve their social skills. Romer and Heller (1983) stressed the
importance of social ecological approach, which supported the view that the environment must be appropriate to the needs and goals of the individuals to be rehabilitated. Social net work has a very important role in social ecological approach. Inter-personal relationship can provide appropriate support when the individual faces, stress and strain or adjustment problems in the family or community. Dimateo & Hays (1981) has referred to the social net work support in their study, which was very much lacking in our society. Romer and Berksons (1980) suggested that mentally retarded people had definite preference regarding social participation and these preferences influence their behaviour to an extent.

Matson (1981) did a study on 20 mildly mentally retarded persons on use of independent training to teach shopping behaviour in a natural environment to develop social skills. The behaviour taught was generalized by the mentally retarded persons. Studies showed that mentally retarded could learn complex community adaptation skill if they are trained. Social perspective taking behaviour was a very important pre-requisite for successful inter-personal communication according to Clark & Delia (1976), Delia Kline & Burleson (1979), and O'Keefe (1979).

Research studies showed that strategies like modelling, role-playing social reinforcement, coaching
instruction etc. could be used separately, or in combination for social skill development. Bates (1980), Gentile and Jenkins (1980) and Matson and Adukins (1980) suggested all these methods to improve adaptive social behaviour in the mentally retarded. Their inability to follow the socially accepted norms kept them away from friends and the members in the community. Lack of social courtesies, inability to effectively participate in social life through communication, traveling independently by following traffic rules, handling the daily needed services through appropriate behaviour in public places, are few to be mentioned. For effective work behaviour and independent living the mentally retarded has to be trained in social skills, even though they may attain this skill with partial success (Kolstoe, 1970).

Early Intervention

Mildly retarded children who comprise the largest percentage, are identified when their intellectual difference is obvious in class situations. Many of the mildly retarded children may have problems in communication, physical development and socialization during the pre-school years (Hewett and Forness, 1984). Some of the problems in these children according to researchers, are related to auditory discrimination, memory, sequencing ability,
analysis and synthesis, (Guthrie and Tyler 1978, Williams 1977, Travis 1971). Research indicated that incidence of speech defects in mentally retarded persons was considerably higher than in the general population. Mentally retarded people acquire language and speech considerably later than normal intelligent people according to Gugino et al (1985), and they recommended programme model. They further recommended placing the children in an environment that necessitated the need to express oneself to develop functional communication. Many of the recent researches emphasised that sensori motor, social, and non-verbal communicative abilities were prerequisites to language acquisition and verbal skills (Bates, Benigmi, Bretherton, Camaioni, and Volterra, 1977; Snyder, 1978). A study was conducted on 40 disadvantaged pre-school children at risk for mental retardation, and 20 control children. Pre-test was done and after the treatment the result indicated that the training procedures significantly increased the cognitive skills of treated children compared to the control group. The study recommended early intervention training in cognitive skills. Similar study done by Hazhik (1986), Barrera (1986) and Spade and Arietta (1987) on the maternal involvement in early child development also showed that involvement by mothers raised the level of language skills. Tingey (1986) did a survey based on the review of 255
studies in the field of early intervention. Results indicated poor effectiveness of parental involvement in the cases taken for early intervention study. The study of Ramey and Smith (1976) on "Assessing the intellectual consequences of Early Intervention with High Risk Infants" indicated that early child-centered educational intervention resulted in measurable intellectual performance differences.

Sherar (1985) did a study on the implementation of a direct intervention for the mother's home care for their handicapped infants and young children. The purpose was to develop the physical and psycho-social skills of the child in his performance in school in later life. The program was intended for children from birth to eight years. The evaluation of the program revealed that prescriptive teaching approach with specific objective were effectively taught and the program was a success. The interaction of sensory and physical factors, opportunity and motivation determined the ultimate levels of flexibility (Hewett and Forness, 1984). According to Weber (1970) early childhood education was in a state of ferment and the number of innovative programme made it difficult for professionals to keep up with new development.

"There has been concern recently with evaluating flexibility or the potential for flexibility as early as possible in an individual's life. Since the handicapping
conditions are not clearly recognizable or are not developed at birth, there has been increasing interest in infants born at risk, that is infants who might be considered possible or probable candidate for the development of a handicap, that would interfere with their flexibility" (Hewett and Forness, 1984 p.162). He further stated that the focus of these programs is on remediation and compensation of sensory and motor impairment, and on the development of sensory motor skills that are presumed to foster cognitive growth. The portage Programme developed in U.S.A. covered five major areas of development for early intervention. They were motor, socialization, Language, cognition and self help. Bloom (1964) emphasizes the importance of the early years for intellectual development, and of the significance of environmental encounters in that development. Vygotsky (1962) takes the position that intellectual structures are built through use, thus experiences should be aimed not so much at the ripe, but at the ripening of functions. Nihira et al (1980) also emphasises that lack of stimulation due to Home environmental deprivation may cause delayed speech and language development. Language enrichment has also been instrumental in facilitating verbal abstracting ability (Tymchuk 1973). All the studies done in communication indicate that the delay in the communication skills result primarily from a failure of children's cognitive functions.
(Bricker and Bricker 1974) or from the failure of persons in the social environment to respond appropriately to the child.

Lovas (1968) and Mahoney (1990) emphasised the role of family in the early intervention activities for children below the age of 6 years. Johnson's (1990) study showed satisfaction in mothers' role in the early intervention programmes affecting their children. Study done by Rothenberg (1990) on an outcome study of an early intervention for specific learning disabilities were assessed and all the results were significantly higher for the treatment group.

Scarborough (1990) did a study on development of children with early language delay. Four children from 2 1/2 years to 5 years with early language delays were compared to a control group of 12 children with respect to their preschool language abilities, and to their verbal skills at the end of Grade 2. The results indicated enhancement of language proficiency of the experimental group. But the follow up done after 3 years indicated that three of the four cases had severe reading disability. Contrary to this study Cooper's study (1989) on 'Early Interference' showed the intervention program capacity to meet an individual child's needs.

The application of the principles of early
experience to human development has taken the form of both stimulation and conditioning program. Petersen et al (1982) demonstrated the relationship of mother's language reinforcement to language development and language delay in children. The study of Simeonsson and Weigerink (1974) supported the effect of contingent stimulation for prelinguistic vocal behaviour. Yoder (1988) attributed mother's role in communication of prelinguistic behaviour. The study indicated lack of ability in giving communicative cues to the developmentally delayed infants.

Effective Strategies for Training

Remedial strategies in the successful communication skills for linguistic, cognitive and social development of the children have to be envisaged. The communication gap has to be filled by an appropriate programme for teaching verbal, reading and writing skills. Kent (1972), Miller and Yoder (1974), Stremmel (1972), Salzinger, Feldmen, Cowan and Salzinger (1961), Premack (1971), Carrier and Peak (1975) and Porter et al (1980) have designed teaching programme for communication skills through their studies, though few were for severely and profoundly retarded children. Many of the studies done by O'Connor and Hermeling (1978), Kirk and McCarthy and Kirk (1968), Uibert and Hemming (1979), McNutt and Leri (1979), Rohr & Burr
(1978), Caramazza, Gordon, Zurif and Dehuca (1976), Cummine (1979) and Ashman (1982) showed the pattern of receptive language and processes of thought, auditory reception, auditory sequential memory, verbal expression and other valuable items in the language acquisition and communication skills in the mentally retarded. Ashman's study showed that the mentally retarded are significantly less capable than others on sequential processing tasks and in expressive language. He designed a programme for remedial programming for moderately and severely retarded children.

Schiefelbusch (1978) advocated treatment programme right from pre-school years to understand the potential treatment approaches for altering the patterns of language skills in the retarded. Several studies were done on the language development of children and many tests were constructed to evaluate the level of deficits in language skills in visual or auditory reception system, deficits in vocal or non-vocal expressive behaviour or deficits in the relationship between receptive and expressive language. Illinois Test of Psycholinguistic Abilities (ITPA) of McCarthy and Kirk (1963) and Spradilin (1963) have suggested application of procedures for the evaluation of specific process, related to communication in a detailed way in their studies.

Freud viewed imitation as an effective component.
Freud (1961), Bandura (1971,1977) and Bandura and Wallers (1963) considered imitation as an ability established by learning experiences. Many theories have been built on imitation. Motivationally based theory of Zingler established that, it was easy for mentally retarded to learn by imitation. Imitation as a teaching strategy was useful in the development of communication skills. This was accepted by Cullinan, Kauffman, Lafleur and Chanes (1975) when they stated that the potentially useful findings on imitative learning have not been widely developed in special education. Matson and Marchette (1980), use modelling as a factor in training package. A review on imitation in the case of mentally retarded persons was done by Glidden and Warner (1982). It was concluded that most of the researches done on imitation in mentally retarded persons were not theoretical. They were ecologically valid, but lack of systematic and programmatic efforts were felt. Yango, Seitz and Zigler's (1978) two factor theory was found to be useful for researchers.

Barry and Overmann (1977) in their study used adult and peer models with E.M.R children and found that peer models were more effective than adult models. Becker and Glidden's study (1979) showed that the age and competence of models were important factors in imitation. Their study showed increased imitation of social behaviour.
Studies of Matson, Kazdin and Esvedt Dawson (1980), showed that imitation played a major role in human development. Though many studies were done on imitation, many more unexplored areas remained for future study. Besides its theoretical significance, it has enormous value in the education and training of the mentally retarded. Most of the children liked to imitate elders. Children must be helped to imitate sounds, functional words and functional sentences. Imitation as a teaching strategy was found very useful in teaching mentally retarded children in the development of their communication skills. Angelo (1990) did a study to find the effects of a pragmatic teaching strategy on 4 mildly and moderately retarded non-speaking children using manual communication boards. Significant differences were found before and after the training. The importance of observational learning as a strategy was emphasised by Wehman (1976). In 1977, Hallahan and Lanna did a study on a 12 years old moderately retarded child whose problematic behaviour decreased when contingent imitation was applied. Various studies thus showed that the enhancement of behaviour through the application of imitation was possible in learning. In the present study, imitation was found very useful for developing communication skills in the mentally retarded.