CHAPTER II

REVIEW

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Reviewing the literature is an important exercise in research. The literature is reviewed to find out the gaps between the existing bodies of knowledge to solve a specific problem. It also helps in avoiding repetition and in exploring new dimensions to the existing body of knowledge in the concerned area. It is a fruitful source of hypotheses and it help to demonstrate the relationship between completed research and the topics under investigation.

Reviewing the literature also sharpens research objectives, suggests what variables should be eliminated being non-meaningful and hence wasteful, increases the likelihood of interpreting results, aids in interpreting meaningful even if non-significant results, and makes research cumulative from one study to the next (Guba and Getzels, 1955). Valuable information on research techniques, thus, may be gained from reports of previous studies. Mouly (1961) asserts that no experienced researcher would think of undertaking a study without acquainting himself with the contributions of previous investigators.

Thus, this review is meant to provide the existing lacuna in the studies and guided the researcher in choosing the tools for her research questions and base for further study. Therefore, this chapter is devoted to review the selective researches, which have direct bearing on the present study. The studies have been reviewed and organized basically around the effect of Individualized Educational Programme in group setting on adaptive behaviour skills of mentally challenged children under study.

The first review of research in mental retardation in India appeared in 1968 (Das, 1968) at a time when education and rehabilitation and care were not very appreciable. By then there were three studies dealing with survey of incidence of mental retardation in junior school classes. Psychological and educational researches were limited to only five studies mostly dealing with sensory discrimination, memory span, verbal conditioning, body sway suggestibility, and probability learning. Das (1968) stated that institutions for the training and care of the mentally
retarded have grown out of the personal efforts and philanthropic organizations providing diagnostic services, physical and recreational programmes and a structured school curriculum.

A few generalizations reflecting research in Mental Retardation in India can be made from the review of Sen (1976). This review appeared in 1976 in the International Review of Research in Mental Retardation in covering a Decade of Research in Mental Retardation in India. The review indicates the status as well as the trend of research in India. Studies in this decade were largely in the area of cultural deprivation, learning and memory process, and attention and distractibility. It is true that these researches are by and large confined to Sen and his associates but these do offer promising features:

Longer display of materials, simultaneous presentation of materials, increased presentation rate of materials, degree of original learning and long-term retention are correlates of learning and memory in retardates. Degree of original learning not only accounted for long term retention but transfer of training. Normal children did better than equal mental retarded in all situations. Distractibility and attention deficit are pronounced in retardates whereas amount of isolation effect is a function of the nature of the isolated terms. However, blanket descriptions of the mentally retarded as distractible cannot be made justifiable without specifying the precise conditions under which it can be overcome by learning.

Review of these studies already done in the field does not deal with the skills in isolation, but include various aspects and causes, and correlates the skills. These factors have been emphasized in the present study wherever the relatedness is significant. Otherwise the attempt has been made to present the findings so as to maintain the focus on the adaptive behaviour skills which basically includes motor skills, self-help skills, communication skills, social interaction, functional academics, domestic behaviour, community orientation, recreation & leisure time activities, and vocational activities.

The literature in the area of the mentally retarded has been increasing in number, particularly in the recent years. But the numbers 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 organized basically around the learning of adaptive behaviour skills of mentally challenged children.

RELATED STUDIES

Berkson (1960), Maisto 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.

Freud (1961) and Bandura (1971, 1977) viewed imitation as an effective component in their study. It was found that imitation was useful as a teaching strategy in developing of communication skills for mentally retarded. Imitation as an ability established by learning experiences was found easy for these children.

Das (1965) found that the retardation has longer reaction time. The retardates were found to be more sensitive than normal to evaluative verbal stimuli like “good” and “bad”. Retardates could name colour faster than reading and words and showed relatively less interference than normal in naming the colour of words.

Phelps (1965) studied to assess the educational ability of the children. His sample consisted of 163 educable mentally retarded children whose I.Q. was 60. The results showed that the medium reading grade level of those children was 3.9 and medium arithmetic grade level was 4.3.

Gidewell, 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 emphasized those 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.
MacAndrew and Edgerton (1966) studied on communication skills of moderately mentally retarded children aged 13 to 14 years (I.Q. 40-50). The research indicated that moderately retarded could do social interaction during their eating time, during watching of television and during other activities. It was also found that they interacted by conversational exchanges.

Johnson and Myklebust (1967) emphasized 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 remains ineffective.

Sen and Sen (1967) in a comparative study of two significantly different mental age groups or retardates found that low M.A. group learnt very slowly but on recall test after a fortnight the difference between the two groups was not found significant.

Crossby and Blatt (1968), Denny (1966) and Goldstein (1943) revealed that mentally retarded were unable to observe continuously certain elements of the stimuli field, that were takes relevant. Lack of attention and destructibility had come in the way of their acquisition of language and communication skills.

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 memorize whole words. A child must know the difference between words, “was” and “saw”. The reading disability could be related to socio-economic, psychological, education and physical factors. Many such factors could be either improved or rectified by appropriate techniques.
Kolstoe (1970) worked on social skills development in mentally retarded children and revealed that 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.

Clark and Delia (1976), Delia Kline and Burleson (1979) and O’Keefe (1979) 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.

Mercer and Snell (1977) studied the effectiveness of multi-sensory, modeling manual guidance and verbal instructional strategies for testing and teaching of adaptive skills with moderately retarded children. It was revealed that appropriate strategies for testing and effective techniques are useful for teaching self-help, motor and pre academic skill, through scientific knowledge.

Black and Cleworth (1978) 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.

Freedman, Wynagarden, Kurtz (1978) and Landesman Dwyer (1981) emphasized the importance of social adjustment as a factor in successful adjustment to community life for the mentally retarded children. It was revealed that 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.

Landesman Dwyer and Berkson and Romer (1979) studied 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 normal are observant of their defects and disabilities.

The study done by Lock Wood (1979) showed that an individualized sequential motor development programme resulted in gross motor skill gain, by a severely retarded group.

A study was done by Wacker et al. (1980) on acquisition, maintenance and generalization on four Trainable Mentally Retarded (TMR) 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 generalizing and maintenance the behaviour in an extra treatment setting. Verbal as well as non-verbal components were used to teach sequential assembly task.

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 Chronological Age (CA) ranged from 5.66 to 14.83 years with a mean of 10.42 and the mean IQ was 42.58. They were assigned to one of the following four treatment groups: Multi-sensory prompt, Physical prompt, Modeling prompt and Verbal prompt. The result showed that the multi-sensory treatment as the most effective assessment strategy with youngest children. The motor performance scores in the testing showed a significantly high degree of stability.

Zellin and Sabsay (1980) have done the study on the communicative skills of the moderately mentally retarded children. They were exposed to a 10 weeks 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. The result showed that
moderately mentally retarded children if given appropriate training could interact verbally.

Batchelder and Riefer (1980), and Chechile and 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 and moderate) children in enhancing their communication skills in auditory and visual discriminations.

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 study showed that mentally retarded could learn complex community adaptation skill if they are trained.

Ashman (1982) designed a programme of remedial programming for moderately and severely retarded children. It was found that the mentally retarded were significantly less capable than others on sequential processing tasks and in expressive language.

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, served 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 in the evaluation group made significant errors in reading than did children in the no evaluation condition. The mildly 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 maladaptive behaviours.

Scholttmann and Anderson (1982) did a study on 200 institutionalized 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 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.

**Bilsky et al (1983)** studied 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.

**Romer and Heller (1983)** in their study on social ecological approach in case of mentally retarded children, viewed that the environment must be appropriate to the needs and goals of the individuals to be rehabilitated. The study showed that interpersonal relationship can provide appropriate support when the individual faces, stress and strain or adjustment problems in the family or community.
Worrall and Singh (1983) did a study to find the relative ness of teaching TMR children to read. He selected 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 groups of children were individually guided by the teacher over a period of 26 weeks. Tests after training indicated that 75% of the rub us 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.

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.

The study done by Morrison (1985) investigated the notion, “person verses environment” as it applied to the socio empathy and social status relationship for mildly handicapped children in the mainstreamed and special class settings. It was 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 far resource room children.

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 period. The regular class room 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 class room 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.

Research and development activities have taken rapid strides after the National Policy on Education (NPE, 1986) came into force and establishment of the National Institute for the Mentally Handicapped (NIMH) at Secunderabad. The institute has done remarkable works in the development of instructional materials since 1988 on a continued basis through systematic research and field testing which go a long way in the rehabilitation of mentally retarded.

**Fleming (1987)** studied that on individualized plan for a change. This study was intended to find the effectiveness of individual programme planning. A sample of 85 mentally retarded persons was selected. Using checklist did pre-test assessment. The skills and training needs of each individual were taken. Fixing goals according to their priorities set up a detailed management plan. 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 fewer than 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.

**Jacobson (1987)** studied 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 Tennessee’s Institutions were samples for the study. The findings suggested that goal plan content varied as a function of intellectual level in all the three groups.

**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.

Abbeduto et al (1988) found 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 classrooms. The subjects were tested individually before the programme and also after the programme were 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 emphasized that speech act comprehension depended on cognitive skills. It is possible that the mentally retarded children could communicate according to their mental age ability.

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.

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 export 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.

Desai’s (1988) study recommended the need of individualized instruction in school and listed out the efficiency of individualized instruction. He also emphasized the importance of planning individualized instruction.
Forbes (1988) study on “A song for David” was found effective in teaching communication skills to an individual child, through sign language and communication boards.

Gast (1988) studied the 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.

Montgomery (1988) studied that on individual programme planning for 11 men aged from 22 to 45 years with severe mental handicap, who had behaviour problems also. 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 analyzed. Evaluation was done and was found that 76% of the objectives 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.

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.

The studies of Ault (1988) & Hoogeveen (1989) emphasized the effect of teaching procedures in the enhancement of teaching skills. They intended to find the efficiency of a programme for teaching moderately retarded children basic reading skills on an individual basis. The training was done individually giving 35 hours per subjects. Phonetic alphabet and pictorial cues and stimulus manipulation techniques were used. Generalization test 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 effectiveness of the technique and the individualized approach may be the reason for effectiveness.
Baker (1989) studied the Nature of adaptive behaviour deficits among individuals who are moderately severely mentally retarded. The adaptive behaviour of 200 individuals living in the West Bank and classified as mentally retarded was measured on a recently developed instrument appropriate for use on Jordanian and Palestinian populations. Individual one-way analyses of covariance were performed on 11 dimensions of adaptive behaviour among individuals classified as mentally retarded in third World areas may not confirm to excepted trends. The obtained results were discussed in terms of their implications to special educators in developing countries.

McDonnell (1989) compared backward and concurrent chaining strategies in teaching community skills. A multi-element alternating treatment design was used to compare the relative efficiency of backward and concurrent chaining strategies in teaching use of a fast food restaurant and a supermarket to four adults with moderate and severe handicaps. The results indicate that both strategies led to the acquisition and maintenance of the two training tasks. No significant differences were found in the number of training trials required for participants to acquire the targeted activities in the backward and concurrent chain training strategies.

Lacono (1989) advocated the use of micro computers for effective teaching of communication skills in the mentally retarded children. Computer Assisted Instructions (CAI) could enhance better individualized training programme. It was revealed that computer can also serve to motivate the learner by the inclusion of graphics and sound stimulates. It could hold interest and attention in the learners and provide feedback to the learner.

Cole (1989) did a study on Group work with people who have mental handicaps. Group work is a method of working which is not widely used with these people, although few available reports of its use indicate that it is an applicable approach. Its article highlights some of the potential benefits that group work can offer. It examines why group work is not in more common usage, and concludes that skepticism, based upon low expectations of people with mental handicaps, is a significant factor.
Corenelius (1989) emphasized the importance of environmental restructure for mentally handicapped persons. It highlights the need of the handicapped to be considered as unique individuals with very special needs which can only be effectively by special means.

Rai (1989) observed the effect of environment on the behaviour of mentally retarded children. Psychological supportive environment system was described which enables the mentally handicapped persons to acquire the basic, self help and social skills in order to more than towards a greater degree of independence. Studies with normal and handicapped children have shown that a poor environment is a direct cause of under functioning. It discusses the effect of individual aspects of the environment to modify and control behaviour.

Blyden’s (1989) study on the effect of color reversed stimulus material, proved effective in teaching survival vocabulary to mentally retarded with multiple handicaps.

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.

Lidhoo and Dhar, (1989) used behaviour modification approach to design teaching and learning for educable children. Improvement in achievement and adaptive behaviours was reported.

Nagendra (1989) studied on integrated approach with yoga as a therapeutic goal 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, 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.

Tateyama & Sniezek (1990) conducted a research on the effects of cooperative learning on the academic achievement of students with handicaps. Journal articles that included students with handicaps in the sample (achievement as a dependent variable and cooperative learning as an independent variable) were
selected for inclusion. A limited number of studies (12) met the selection criteria, and the findings were inconsistent. More research is needed before teachers are encouraged to use cooperative learning methods to promote the academic achievement of mainstreamed special education students.

Dave (1990) conducted a study on enhancement of adaptability of mentally retarded children through special programmes. Significance and effectiveness of such programmes was found in this study which helped 48 mentally retarded children in open employment.

Demchak (1990) reviewed Response prompting and fading methods. Teachers of individual with handicaps typically use response prompts such as verbal instructions, modeling, and physical guidance, to encourage correct responding. However, the goal of instruction is to have the individual respond to natural stimuli rather than response prompts. Therefore, these response prompts must be faded. Currently there are four methods for systematically fading response prompts increasing assistance, decreasing assistance, graduated guidance, and time delay. An interview of each method as well as a review of comparative investigations involving these methods of fading response prompts was presented.

Angelo (1990) did a study to find the effect 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.

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.

Natsopulos (1990) studied 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 clues as the non-retarded children. Digit span and verbal I.Q. are significantly correlated with non-retarded children’s comprehension. Many studies were done on severely and
profoundly handicapped and support the view that they have potentialities to interact, but are unable to do so due to some specific reasons.

**Narayan (1990)** compared of the effectiveness of adult and peer model on the learning and retention of performance skills in children with mental retardation. A learning kit for teaching the skills was developed for EMR and TMR children. Peer modeling was found to be the most effective technique for learning performance skills in motor, perceptual and communication areas as compared to adult and no-model conditions for both EMR and TMR children.

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

**Fucum (1992)** did a study to find the effect of expert system consultation with in 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 sixty three students with mild to moderate children were randomly grouped into three groups: CBM with expert system instructional consultation; CBM with no consultation; and control group without CBM. The CBM teachers implemented a CBM system for seventeen weeks. The results indicated that the students in both CBM groups achieved reading skills in fluency and comprehension, higher than the control group.

**Narayan and Panda (1993)** studied the effect of peer models on learning of performance skills in mild and moderately retarded children in India. The sample consisted of 150 mentally retarded children including 75 educable mentally retarded children with an IQ varying from 51 to 70 and 75 trainable mentally retarded children with IQ ranging from 25 to 50. They were divided into two groups (A-1 and A-2), age ranging from 10 to 14 years. Each group was randomly divided into three treatment groups namely the adult model group, the peer model group and the no model group. It was found that their were significant difference between adult model and peer model group and between peer model and no model group.
Manjary & Julius (1994) attempted to study the functional skills and problem behaviour of the mentally retarded children with and without Down’s syndrome. The sample consisted of 30 children between the age ranges of 5-12 years with different levels of retardation. 30 children were administered the behavioural assessment scale for Indian children with mental retardation developed by Peshawaria and Venkatesan (1992). The sample was randomly selected from the special schools in Madras city. No significant difference was found between the mentally retarded children with and without Down’s syndrome with regard to their functional skills and problem behaviour.

Mohanty (1994) studied the effect of token reinforcement programme on the rate of production accruing retreated persons. Seven participants in the age group of 14-22 having mild to moderate retardation were selected. The intervention improved the production skill observed on total and correct activities. In 1995 Kumar investigated, teaching of coin skill to the mentally retarded using 18 mentally retarded children. A combination of pre-test and post-test and multiple base line design were used. Teachings of matching and naming skills are relatively easier than teaching of identification skills. Acquisition of identification skill is facilitated by the acquisition of naming skill. The generalizations of both studies are of limited value because of sample restriction and absence of viable findings.

Sen, Parkash, and Chhabra (1994) studied urban mentally handicapped school children from ecological perspectives. The aim was why certain children studying in an urban school fail to do as well as their classmates, and the predisposing factors in their experiential and physio-economic background that promotes their mental degeneration. The study was carried out in two phases. In Phase I, 1,336 children covering 184 girls and 152 boys, aged 4 to 16 years enrolled from Dehradun comprised the sample. They were identified as mild mentally handicapped; borderline intelligent and intellectually average on the basis of an IQ test. In Phase II, 20 retarded, 20 borderline and 20 intellectually average children from Phase I were screened out for the study in terms of home environment, deprivation, parent’s subjects, basic life skills and parent’s intellectual status. The tools used were Draw-A Man (DAM) Test by Pathak, Seguin Form Board (SFB), Home Environment Scale, and Prolonged Deprivation Scale (PDS), Raven’s
Progressive Matrices and Basic Life Skills Scale (BLS). Majority of the children were intellectually average. Majority of the boys and girls showed average intelligence. Regarding age, children between 8 and 15 years showed a greater degree of mild handicap while borderline handicap was more prevalent in children aged 5-12 years. The analysis carried out on Home Environment Scale revealed significant differences between mildly mentally handicapped and borderline intellectual children on factors of parental aspiration, food nutrition and health factors, while borderline intellectually average children showed significant differences only on the factor of food, nutrition and health. There were significant differences between mildly mentally handicapped and intellectually average children on the factors of food, nutrition and health mass media and parental aspiration. The analysis carried out on the Prolonged Deprivation Scale revealed mildly mentally handicapped and border line children differed significantly on the factor of food, parental characteristics, motivational experience, religious and emotional experience, Factor B (Experimental) and total deprivation scores whereas the mildly mentally handicapped and intellectually average children differed significantly on all factors of Prolonged Deprivation Scale except on home environment. There was a significant difference in the mean scores of the mother's and father's intellectual status between mildly mentally handicapped and intellectually average group as well as borderline and intellectually average groups. In the context of basic life skills, personal social functioning and independent functioning, there were significant differences between mentally handicapped borderline handicapped and intellectually average children.

Venkatram and Hanumantha (1994) observed the nature, type and duration of exposure to various types of schools settings in individuals with mental handicaps, and to explore the presence of any specific trends in the school exposure of these persons in relations to specific variables like age, sex, type or duration of schooling and severity of their handicap. The sample comprised cases from General Services of Sweekaar Rehabilitation Institute for Handicapped, Secunderabad. Only those cases of mental retardation and/or pervasive developmental delays as diagnosed according to ICD-9 criteria of WHO, were included in the study. The areas covered in the process of data complication included demographic details of target cases, and
academic history. From the overall sample 806 cases had no school exposure, 92 had exposure to special schools and 560 had exposure to normal schools. All students with profound mental handicap showed no school exposure at all. In relation to sex variable, the number of male mentally handicapped with special school exposure and normal school exposure were greater than that of females. As regards duration of schools exposure nearly 452 cases discontinued their schooling within first five years, while another 152 dropped out in the next five years thereby leaving only 38 to continue beyond ten years. Females dropped out of schools more rapidly by the end of five years as compared to the males. While the males on an average seemed to join schooling later than females. School changes were reported more frequently in mild mentally retarded children, followed by moderate mentally retarded, severe mentally retarded and least in children with borderline intelligence. There was a higher rate of school change in males than females as well as with the increasing age of the children.

Ellas & Taylor (1995) did a study on Building social and academic skills via problem solving videos. A discussion-leading guide was described that makes TVDRP (Television or other audio-visual media, discussion conducted with open-ended questions and rehearsal and guide practice) lesson activities enjoyable and skill building. It designed to guide student through a light step thinking process for making every day decisions and solving social and academic problems.

Ebenstein (1995) studied the parents regarding few important Individualized Educational Programme strategies about getting what their child needs from Individualized Educational Programme meetings and annual reviews. It was presented few most important IEP strategies based on the experiences of parents and legal knowledge of another to meet individual needs of special children.

Pasnak, et. al. (1995) conducted a study on achievement gains after instruction on classification and seriation on children with mild mentally retarded. These children were matched by age and IQ and randomly assigned to receive either of two forms of instruction. Those who received learning set instruction on unidimensional classification and seriation improved on these precursors to concrete operations those who received more conventional instruction did not. The
Improvement on classification and seriation was accompanied by improvement on measures of academic achievement, but there were no significant changes on a measure of psychometric intelligence. The results indicate the need for classroom techniques that produce mastery of, rather than improvement on, these simple forms of classification and seriation.

Merril, et al. (1996) examined the acquisition of automatic processing in persons with and without mental retardation. In experimental subjects viewed slides of objects to determine whether a picture object belonged to a designated target category. There was an effect of search set size for both groups that decreased and eventually disappeared with practice. This result reflected the acquisition of automatic processing. Also, evidence of automaticity was observed with less practice for subjects without relative to subjects with mental retardation. In experiment 2, subjects searched for the presence of a designated target shape in arrays containing two, three, or four shapes. Results were essentially the same. Implications of these results for the development of cognitive skills by persons with mental retardation were discussed.

Stith & Fishbein (1996) investigated basic money counting skills of children with mental retardation. The thought processes involved in counting and comparing small amounts of money among children and adolescent with Down Syndrome (n=17), other children and adolescents with mental retardation of unknown etiologies (n=17), and normally developing first grades (n=15) were examined. Three different tasks that progressively reduced the cognitive demands placed on the children were used. Although not generally different from each other, the two groups of children with mental retardation had far greater difficulties with the tasks than normal. Also, as the complexity of the counting task increased, the number of comparisons errors made by the children with mental retardation increased. Based on the findings, a program for teaching money principles to children with mental retardation was proposed.

Richardson, et al. (1996) explored the development of self-management in an individual with mental retardation with Down Syndrome. Ethnographic methodology, including interviews, observations, and document reviews were used.
The culture of the case study was explored to determine how her home life, family (including her twin brother, schooling and community experiences have contributed to her abilities to self-regulate. Development of her self-monitoring skills was investigated through the memories of the adults who knew her currently and in the past. Triangulation was accomplished across and within data types and sources. Data analysis employed the constant comparative method (Lincon & Guba, 1985). The case subject was shown to self-monitoring in many ways and in different settings. Her mother’s parenting strategies were compared to Vygotsky’s developmental theories. Outcomes suggested that culture had a large impact on the development of self-monitoring and that early and continuing intervention and a “practical expectation of normally” might be keys in the development.

Pati, Kumar and Mohanti (1997) systematically explored the effectiveness of a package programme consisting of sitting at the left hand side of the subject, verbal instructions (attend your task), and secondary reward, on the task attention of the persons with severe mental retardation in classroom setting. The study revealed significant improvement in the behaviour of all subjects and also prove the functional relationship between package and behaviour.

Bani and Mishra (1997) found that articulation development in mentally retarded is directly proportional to the mental age. Sixty subjects of both the sexes, age ranges from 5-20 years were taken for the study. It has been found that articulation development in mentally retarded is directly proportional to the mental age. Mild and moderate mentally retarded shows better articulator response than severe mentally retarded. Mild MR develops phonetic sounds better than severe mentally retarded. This study also shows that females have little better articulator performance than males.

Kumar, R. (1997) investigated the teaching of coin skill to the mentally retarded using 18 mentally retarded children. A combination of pre-test and post-test and multiple base line design were used. Teachings of matching and naming skills are relatively easier than teaching of identification skills. Acquisition of identification skill is facilitated by the acquisition of naming skill.
**Myreddi (1998)** studied the effect of peer mediated reinforcement and response cost in the enhancement of learning among the mentally retarded children and studied 80 (40 EMR and 40 TMR). Eight students from Class VIII KVS, Secunderabad served as peer tutors. Ten students within each category formed the group; Peers taught lessons in reading, writing and arithmetic for 16 sessions each. Social reinforcement yielded higher achievement in all these areas. Levels of retardation did not make any differential achievement. Response cost was not very effective including its combination with social reinforcement.

**Panda (1998)** did a study on learning and retention among normal and mildly retarded children as a function of magnitude of isolation and retention interval under serial and free recall learning, under immediate and delayed recall conditions. Results revealed two significant observations. Learning and retention were inferior to that of normal children in serial learning. But retarded children learnt isolated materials faster than other materials. This was same for both serial and free recall learning.

**Myreddi (1999)** did a study on the effect of peer mediated reinforcement and response cost in the enhancement of learning among the mentally retarded children. She examined eighty mentally retarded children (40 educable mentally retarded and 40 trainable mentally retarded children). The results revealed that the peer tutoring as a strategy is effective in teaching academic skills to these children.

**Gupta & Jain (1999)** studied and compared the subjects belonging to all the three levels of mental retardation mild, moderate and severe/profound on the basis of different dimensions such as male/female; different age groups, residential/day care, rural/urban area and service/business. The sample consisted of 85 mentally handicapped children enrolled at Arpan Mentally Handicapped Institute situated in Rohtak city. The study revealed that subjects belonging to rural/urban area, both the age-groups (6-13 years and 14-16 years) and residential/day care students differ significantly at all the three levels of mental retardation.

**Sunita (2000)** studied the job performance of the mentally retarded employees in open employment and sheltered workshop; job responsibility factors that affect work effectiveness; and task production competence. The results revealed
that mentally retarded children individuals can be successfully employed and contribute to community. With periodical counseling and environmental support they can do skilled and unskilled jobs perfectly. They show improvement with training and experience. Poor social-vocational competence affect work effectiveness are poor in functional academics. However, they continue to maintain job performance level.

Gupta & Jain (2002) did a study to find out problems of parents of those mentally retarded children who have been assessed as spastic cerebral palsy by the school authorities of mentally handicapped institutes at the time of admission. ‘Parents Problem Questionnaire’ was given individually to each parent to know their problems about their spastic children. It revealed that less educated parents and parents belonging to low income group and rural area have significantly more problems about their spastic children than their counterparts.

Shriner & Destenfand (2003) studied the role of Individualized Educational Programme on participation and accommodation in state assessment. It was quoted that Individualized Educational Programme is both an important process and a document in decision-making concerning students; participation and accommodation in assessment. In this intervention study, training was found to increase the quality and extent of participation and accommodation documentation on the Individualized Educational Programme. Correlations between what was documented on the Individualized Educational Programme and what happened on the day of testing were highly variable. Although students’ Individualized Educational Programmes appeared to reflect individualized decisions, political and logistical factors limited the utility of the Individualized Educational Programme and interfered with its actual implementation.

Gupta & Jain (2005) studied the attitudes of the parents of those mentally retarded children who have been assessed as spastic cerebral palsy. ‘Parents Attitude Scale’ was given individually to each parent to know their attitudes towards their spastic mentally retarded children. This study revealed that less educated parents, parents belonging to high-income group, rural area and business class have significantly less favourable attitudes towards their spastic mentally retarded children than their counterparts.
Gupta & Jain (2005) studied the effect of Music Therapy on the mentally retarded children. In this study, severely retarded children have been observed responding moronically to music when other stimuli failed to elicit observable responses. Mild retarded children have been observed reciting the alphabet with little or no difficulty when it was taught rhythmically the study revealed that music. It was found that Music education can be employed as a means of improving the academic achievement and social adjustment of mentally handicapped children so that they feel themselves a part of the society can be used in the mainstream of education as an instructional technique.

Gupta, Kumar & Jain (2006) studied the misconceptions of parents having mentally retarded children who are enrolled at various institutes of mental retarded. ‘NIMH GEN QUESTIONNAIRE’ was given individually to each parent to know his misconceptions about their mentally retarded children. It revealed that fathers, less educated parents and parents belonging to rural area having mentally retarded children have significantly more misconceptions than their counterparts.

Malhotra, Gupta and Kumar (2006) did a study on impact of early intervention programme on developmental delayed children. Three cases (two mentally retarded and one orthography multiplex congenital diseases) were observed and given training of early intervention programme. It was found that in all the three cases training strategies given during early intervention programme have positive impact on developmental delayed children.

Gupta, Sindhu and Kumar (2006) studied the effect of Yoga therapy on persons with mental retardation. The study was conducted on 20 persons with mental retardation to see the effects on correcting postures, reducing obesity, controlling dribbling, bringing down hyperactivity, improving appetite, sleep and general health. This study revealed that yoga therapy, if properly practiced may help to coordinate the activities of the mind and body of the mentally challenged persons and also help in reducing the distracted state of mind and help in mind concentration on the present activity and improve the activities of daily living to a degree of which could not be achieved otherwise.
Jain (2007) studied to find out the effect of Individualized Training Programme on personal, social, academic and occupational skills in mild mentally handicapped children. Her study revealed that implementation of individualized training programme in case of these children is very beneficial in enabling them to improve their personal, social, academic and occupational skills at their own pace.

Gupta & Sindhu (2007) studied the impact of Individualized Educational Programme for improving functional skills of children with mild and moderate mental retardation. 20 children with mental retardation (MR) of the age group of 10 to 13 years were constituted the sample. Among these children, ten were mild mentally retarded with 50 to 69 IQ and remaining ten were moderate mentally retarded with 35 to 49 IQ. These children, being mild and moderate, were identified by the school authority. Pre-test and post-test design was followed. At the stage of pre-test, functional skill areas viz. Motor skills, Activities of Daily Living, Language skills, Reading, Writing, Number, Time, Domestic, Social skills, Pre-Vocational and Money Skills of each mentally retarded child were assessed with the help of ‘Behavioural Assessment Scale for Indian Children with Mental Retardation’ (BASIC-MR), an assessment tool. Based on that assessment in each skill area, a systematic Individualized Educational Programme was developed for each child and implemented for three months. At the stage of post-test, each functional skill area was again evaluated and recorded in BASIC-MR. The parents of the subjects were also guided to follow the educational programme at home to improve the skill behaviour of their wards appropriately in time. They were encouraged to discuss the progress of their children once a week. It was found that Individualized Educational Programme in functional skill areas, if initiated and followed up on regular basis, can improve the skills of the child more effectively.

After having reviewed the related literature, it was found that majority of the studies emphasize on conceptual studies, learning and memory, communication skill development, curriculum and instruction related to the field of mental retardation. There has been no study to see the effect of Individualized Educational Programme in group setting on adaptive behaviour skills of mentally challenged children. Hence the present study is an attempt in this direction.