CHAPTER - II
### CHAPTER-II

**REVIEW OF RELATED LITERATURE**

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CHAPTER - II

REVIEW OF RELATED LITERATURE

2.1 Meaning and Significance:

The knowledge which has been accumulated in the past as a result of constant human endeavour is a great boon to the related study of a problem proposed by a researcher. A careful review of the research journals, books, dissertations, theses and other sources of information on the problem to be investigated must precede any well planned research study.

Review of related literature serves mainly three purposes -

It gives knowledge on -

i) What has already been done in a particular field.

ii) What is yet to be done by the future researchers.

iii) How to avoid the duplication of well established findings.

Therefore, it serves as the base to select research problems, its objectives and hypotheses.

The facts discussed above rationalize that review of related literature has to be done before the selection of the research problems, objectives as well as hypotheses.

Review of related literature means to systematize the available knowledge of the field in a unique way to provide the rational study. In survey and descriptive Research, the review of related literature serves as variety of
background functions necessary for the actual collection of data. Review of related literatures thus imply locating, studying and evaluating the reports of relevant research, journals, dissertations, theses and other sources of information, which allow the researcher to acquaint himself with the current knowledge in the field or area in which he is going to conduct the research. It helps the researcher an understanding of the research methodology that enables him to carry out the research in a promising way. As the review is conducted, it also makes the research more worthwhile.

The main objectives of the Review of Related Literature can be expressed in the following way -

* To provide theories, ideas, explanations etc. which may prove useful in the formulation of a new problem.

* To provide the sources for hypotheses. The researcher can formulate research hypotheses on the basis of available studies.

* To suggest method, procedure, sources of data and statistical techniques appropriate to the solution of the problem.

* To locate comparative data and findings useful in the interpretation and discussion of results. The conclusions drawn in the related studies may be significantly compared and be used as the subject for the study.

* To provide some insight regarding study points and limitations of the previous studies, to enable the researcher to improve his/her own investigation.

A number of research study have been located both in western as well as in Indian countries relating to special children. In this chapter some selected
and relevant studies conducted on special children (both visually and hearing impaired) have been reviewed.

Some of the studies given below may not be directly related to the present study, but a brief review of these would stimulate Indian educators (or researchers to explore a variety of themes to study on VI and HI children. The researcher has reviewed a number of related studies that were conducted in India and outside the country and has arranged them systematically in this chapter as -

1. Studies done in Western Countries
2. Studies done in India
3. Studies done in Assam

1. STUDIES DONE IN WESTERN COUNTRIES:

Erickson Edsel L (1969), Southern Illinois University, US studied a problem on “Predicting the academic achievement of the acoustically impaired using intelligence and self concept of academic ability”. The study discussed the relative usefulness of intellectual ability as measured by IQ and Self Concept of Academic achievement (SCA) in predicting the academic achievement of deaf students. A double cross-validation design was employed, using beta weights derived from step-wise multiple regression analyses.

Isaac Morton (1973), Rochester Institute of Technology, College of General Studies, USA, studied a problem on “Precision teaching of the deaf”. The study conducted on deaf students to an introductory psychology course.
A group of 31, which was conducted under a precision teaching method and 17 under the traditional lecture format. It was found that the group which received the precision teaching scored 13.6-16.6 points higher.

Arnold and Tremblay (1978), studied on “Interaction of Deaf and Normal Hearing Pre-school Children”. The study was based on observation of Hearing Impaired and Normal Hearing Pre-schoolers. Special social behaviours in a natural free play setting was observed. Except some minor differences, the social behaviours of Hearing Impaired Pre-schoolers was not significantly differ from that of Normal Hearing peers.

Chapman K. Elizabeth (1978), of University of Birmingham, conducted a study on “Assessment of the intellectual, social and educational attainments of visually handicapped children”. The investigator observed that the assessment procedure in any attainment test of visually handicapped children was very time-consuming. She also added that most of the tests scale prepared for the visually handicapped could be easily administered with the sighted pupils too. Regarding the social competency, she found no significant difference in social competencies in areas of self-help such as dressing and levels of social adjustment in between the visually handicapped and normally sighted children.

Quatrano, Louis A (1978), Association of University programs in Health Administration, Washington DC, conducted a study on “Interrelationship of disabled college students’ attributes, programme use, and study attitudes”. He studied 115 physically disabled university freshmen in regard to use of supportive services, study habits, disability and academic performance. The
results suggested some strategies for assisting disabled students who had academic problems.

**Weber, Gail Y (1980),** Merrit Trace Elementary School, Canada, studied on "Visual disabilities : Their identification and relationship with academic achievement". The investigator conducted 2 simple tests of visual ability for classroom teachers to identify visual handicapped children. The two tests showed how visual functioning can affect academic achievement. The result showed that there is 50-50 chances of high and low academic achievement of visually handicapped and further suggested that the young children with possible visual abnormalities should be tested in visual acuity and performance both at a distance and close up.

**Anderson Lonnic (1981),** conducted a study on "The Relationship of Hearing Impaired Children’s score on the Beery Visual - Motor Integration (VMI) Test and the Reading sub tests of the American School Achievement Test (ASAT)". The objective of the study was to evaluate the relationship between the results on the Beery VMI Test and those on the reading sub-tests of the ASAT in a hearing impaired population. The results indicated that both reading age scores and the Beery age scores are significantly below the chronological age, but the reading age and Beery age are not significantly different. The study concluded as - "It is possible that causes for the hearing impairment may also cause visual-motor integration deficiencies. Such difficulties are associated with reading problems. Since deaf children already experience reading delays as a result of their delay in language development, additional problems with visual-motor integration skills may be overlooked".
Vandell and George (1981), conducted a study on “Social initiator of Hearing Impaired (HI) and Normal Hearing (NH) children in a laboratory setting”. They found no significant difference in social behaviour of both the groups of children. They concluded that the communication skills of the two groups were basically equivalent.

Walter, G. G. (1984), US conducted a study on “Total communication effects: A longitudinal study of a school for the deaf in transition”. Here a 5 years longitudinal study was conducted to evaluate the effects of introduction Total Communication (TC). Three groups of students were studied. Pre-TC (students enrolled 5 yrs. prior to the introduction of PC). Mixed (students who received part of their education under the oral / aural method and part under the TC method) and TC (students who had all their education in TC). It was found that the TC group significantly exceeded the mixed group while significantly exceeded the Pre-TC group on reading comprehension, math and overall academic achievement dimensions.

Rachel Levy - Shiff and Michael A. Hoffman (1985), Bar Ilan University, Israel, conducted a study on “Social behaviour of Hearing Impaired and Normally Hearing Pre-Schoolers”. The study was conducted on Israeli Pre-school age children. They selected 36 children of varying degrees of hearing loss (severe loss/profound loss) and normal hearing. They found that social competence and hearing impairment were related. The profoundly impaired were markedly less skillful than the normal hearing.

Paal Nicholaus and Susan Skinner (1988), Little Rock, US, studied on “The relationship of non-verbal intelligence measures to academic
achievement among deaf adolescents. The study examined the correlation between academic achievement and 2 tests of non-verbal intelligence: the Wechsler Adult Intelligence Scale - Reviewed (WAIS-R) performance scale and the Hiskey-Nebraska Test of Learning Aptitude (HNTLA). Both tests correlated significantly and positively with measures of reading comprehension and mathematical computation. Results support the use of either the HNTLA or the WAIS-R performance scale as a predictor of academic problems in high-school aged deaf students.

Rawling Brenda and Thomas Allen (1991), centre for Assessment and Demographic studies, Washington DC, studied on "Deaf students' transition: Education and employment issues for deaf adolescents" which examined the characteristics of deaf students, their schools and their training and labour market conditions that affect employment and Post Secondary (PS) education. It was found that the communication problem for deaf workers affects employment prospects and other opportunities.

Buckleg, Rochester (1993) of national Technical Institute for the deaf New York, US, studied on "Deaf community college transfer students moving to the National Technical Institute for the Deaf (NTID): A comparative Analysis." The study compared 176 deaf and hard of hearing community college students who transferred to the NTID (4 years course) and 191 'native' students who attended only the 4 years course. The 2 groups were compared on 28 variables that were grouped into 4 major areas, entry-level characteristics, entry-level academic skills, entry-level communication skills, and academic achievement. Recommendations were made for enhancing collaboration between
programmes to ease the transfer of deaf students.

**Wolffe Karen (1997)**, of Manchaca, TX, US, studied a problem on “The Lifestyle of Blind, low vision, and sighted youths: A quantitative comparison”. The study was conducted on 16 blind students, 16 low vision students and 16 sighted students (aged 15-21 yrs.) and their parents were interviewed by telephone using questionnaires designed to examined 4 areas - academic involvement and performance, daily living and personal care activities, recreation and leisure activities and work and vocational experiences. Similarities and differences among the 3 groups, as well as implications of the findings were discussed.

**Engel Ruth and Rosenhouse (2000)**, Haifer, Israel, conducted a study on “Reading difficulty characteristics in dyslexic and hearing-impaired students in Hebrew”. The study conducted on three reading impaired populations. The first two groups consisted of 200 dyslexic students (100 readers with impaired auditory perception and 100 with impaired visual perception). The third group comprised of 61 readers with severe hearing impairment. The main objective of the study was to examine the types of reading errors of the students. Similar characteristics of reading difficulty were found amongst dyslexic (impaired with auditory perception and visual perception) and hearing impaired students.

**Robyn Denise Fillman (2000)**, The Ohio State University, US, studied on “The Relationships among Rebellion Syndrome, Academic Achievement and Cognitive Performance of Deaf Students”. The CRS and non-CRS data were compared. Differences in intelligence and academic achievement between
the CRS and non-CRS groups were identified through analysis of scores. Data were analysed using 't'-tests and multivariate analysis of variance. Scores showed significant differences between the CRS and non-CRS groups.

Marschark Marc (2001), National Technical Institute for the Deaf, Dept. of Research, Rochester, US, studied on “Understanding language and learning in deaf children”. The study mainly examined the cognitive functioning of deaf learners. The study suggested ways in which educational methods might need to change in order to optimize academic success of the deaf children.

Lang, Harry G. (2002), National Technical Institute for the Deaf, Rochester, NewYork, conducted a study on “Higher Education for Deaf Students: Research Priorities in the New Millennium”. The study reveals a significant body of knowledge about the barriers these students face in gaining access to information in the classroom. The article summarizes relevant research and suggests directions for educational researchers interested in enhancing academic success and the retention of deaf students in higher education programmes.

Luckrer, John L (2002), University of Northern Colorado, US, studied on “Suggestions for helping students who are deaf succeed in general education setting”. Research on successful students who are deaf and receive the majority of their education in general education settings suggested the importance of 10 factors for promoting this success. In an effort to bridge the gap between research and practice, specific suggestions about how to integrate the identified factors into the educational programmes of students who are deaf are provided in this study.
**Power, Stephen (2002),** University of Birmingham, UK, conducted a study on "Influences of student and family factors on academic outcomes of mainstream secondary school deaf students". The study takes into account of some of the students and family factors influencing the educational achievements of deaf children. The study was concluded with a specific question of why the family factor was often reported as not significant in academic achievement.

**Frisby, Craig. L. (2003),** Deptt. of Educational, School and Counselling Psychology, US, studied on "Non-verbal Assessment of Academic Achievement with Special Populations". The researcher stated that a state-of-the-art norms for the deaf students must be developed for taking individual and group standardized achievement test. For those educators who will be administering tests to deaf students, the Registry of Interpreters for the Deaf has developed a code of Ethics. As demonstrated in the report, planning alternate assessments for students with severe speech and physical impairments is a complex affair. However, professionals who work with this population, the standardization can be relaxed for eliciting maximum performance.

**Karchmer, Michael A. (2003),** Gallaudet Research Institute, Gallaudet University, Washington DC, US, done a study on "Demographic and achievement characteristics of deaf and hard of hearing students". In the study the investigator placed the academic achievement patterns among deaf and hard of hearing students in the context of variations in outcomes. Then he compared hearing students and deaf and hard of hearing students by reviewing the results from the 1996 Stanford Achievement Test, nineth edition.
Finally, he presented a synthesis between student-characteristics and achievement outcomes.

**Polat, Filiz (2003),** University of Manchester, UK, conducted a study on “Factors affecting psycho-social adjustment of deaf students”. The major objective of the study was to investigate the impact of the following variables on deaf students’ psycho-social adjustment in Turkey - student-related background and experiential characteristics, parent-related variables, school-related factors and teacher-related variables. The multiple regression analysis revealed that degree of hearing loss, additional handicap, and age at onset of deafness were negatively related to psycho-social adjustment of deaf students. However, there was a positive relationship between psycho-social variables and some of the independent variables such as use of hearing aid, academic achievement, parental hearing status and communication methods used at school. The findings of the study did not support ‘pathological’ view of deafness but identified some environmental factors which were influential on the psycho-social adjustment of deaf students.

**Fuentes, Mariana (2004),** University of Bercelona, Spain, conducted a study on “Education of deaf students in Spain : Legal and educational politics development”. The study examined the legal instruments and educational politics affecting deaf persons’ educational rights in Spain. Due to the low academic achievement of deaf students educated in a monolingual model, it suggested to introduce bilingual education for deaf students at all levels along with recognition of sign language. It has further emphasized that efforts must be made in the legal sphere to regulate the way in which professionals work
who know sign language.

**Marschark, Marc (2005),** Deptt. of Research, National Technical Institute for the Deaf, Rochester, New York and others in a series of articles, entitled “Perspectives on deafness educational interpreting : Access and outcomes,” noted that despite the efforts of scholars and researchers, the field remains played by false assumptions and ill founded attitudes. There was the great need for educational interpreters than ever before, as mainstream academic placement had become the primary means of educating deaf students. Although, over 75% of deaf children are now being educated in local public schools with hearing classmates in US, but still there is a well-documented shortage of qualified interpreters.

**Erin, Jane N. (2006),** Dept. of special Education, University of Arizona, US, conducted a study on “Relationships among testing medium, test performance and testing time of high school students who are visually impaired”. The study compared the test scores and time required by high school students who are blind, sighted or have low vision to complete tests administered in written and oral formats. The quantitative results showed that the blind students performed better on multiple - choice tests in braille and needed more time while taking tests in braille.

**Langer and Elizabeth Cald Well (2007),** University of Colorado, US, did a study on “Classroom discourse and interpreted education : What is conveyed to deaf elementary school students”. The investigator pointed out that though increasing numbers of deaf and hard of hearing students are being placed in generals education classrooms, but little is known about how
well the content and overall learning experience is preserved through interpretation. The study was divided into two phases Study-I and Study-II. Results of Study-I showed that depending on the element of classroom discourse, the educational interpreters clearly and completely conveyed approximately one-third to two-third of the information, whereas in Study-II, a large difference was found between comprehension of the discourse elements in the direct presentation.

Meckenzine, Amy R. (2007), and his associates, College of Education, Florida State University, US done a study on, “The use of learning media assessments with students who are deaf-blind”. The study mainly investigated the decision making process used by the teachers of students with visual impairment in determining the literacy media of students who are deaf-blind. Data were collected using an online survey. The findings included the sporadic use of learning media assessments.

Simms, Laurene (2007), Gallaudet University, Washington DC, conducted a study on “In search of a new, linguistically and culturally sensitive paradigm in deaf education”. The study revealed that for more than a century, educators have recognised the low academic achievement of deaf children in education and have emphasized medical - pathological views of deaf people and deaf education rather than appropriate pedagogics. A recent and growing interest in educating deaf children bilingually acknowledges the value of American Sign Language and English in classroom. The investigator urged to rethink the teaching methodologies in deaf education.
2. **STUDIES DONE IN INDIA:**

**Pandey, R.N (1983)** studied on “Affectional deprivation, ego strength and adjustment pattern among visually handicapped & their rehabilitation.”

The major objective of the study was to make a psychological study of affectional deprivation, ego strength and adjustment among visually handicapped children and their rehabilitation. The major findings of the study were -

i) The deprivation as felt by rural blind children was significantly more acute than that felt by urban blind children.

ii) There was no significant difference in the pattern of affectional deprivation between congenitally blind children and post-natally blind children.

iii) It was found that blind children has ego strength and poor adjustment. Emotionally they appeared immature and hence there was need for their rehabilitation.


The sample comprised visually handicapped adolescents in the age-group of 12-18 years, who belonged to rural and urban areas.

Major Findings : 1) The distribution of the two groups, VH and VN, according to the intensity of total adjustment was found to be significant. 2) It was found that the group of VH adolescents vary with age of onset of the handicap in their adjustment to the interacting environment.

The sample comprised 350 handicapped boys (deaf, dumb, crippled, emotional, socio-economically handicapped, intellectually handicapped, academically handicapped and an equal number of handicapped girls, together with 200 normal children (control group) equally divided into two groups (of 100 boys and 100 girls).

Major findings: 1) The normal children displayed significantly higher field-dependence than the handicapped children. 2) The normal children were found to possess higher sensation-seeking ability as compared to handicapped children. 3) The normal children differed significantly in their sensation seeking abilities from the physically, emotionally, socio-economically, intellectually and academically handicapped children. Sex differences existed too. 4) Emotionally handicapped children scored the highest mean on sensation-seeking while the academically handicapped scored the lowest mean.


Major findings: 1) On the VI, 45 studies had been conducted; 13 studies were conducted up to 1980, while 32 studies were conducted during 1981 and onwards. This indicates the concern for research in special education during 1980s. 2) On education of the HI, 14 studies had been conducted. 3)
On education of the OH, there were 45 studies. In terms of subject area, psychology and education were on equal footing, social welfare being the third area to generate researches. 4) On education of the MR, there were 43 studies. The maximum number of researches appeared during 1976-80.

**Khan, A.H. (1988),** studied on “Personality structure of blind children and its relation to their mental ability and educability”, Utkal University.

The sample consisted of 246 students studying in all the schools for the blind in Orissa. Mean, SD, ANOVA and correlation were used to analyse the data.

**Major Findings :** 1) There was a significant difference in the intelligence level among the lower primary, upper primary and secondary level blind children. 2) The children showed positive self-concept. Educational level and age did not influence the development of self-concept significantly. 3) The blind children were less extraverted and were more neurotic, self-centred and were of the withdrawal type. 4) Achievement in SUPW increased significantly with increase in education of the blind children. 5) There was no significant relationship between IQ and achievement among the blind children.

**Sharma, M.C. (1988),** conducted a study on “An exploratory study on the use of teaching aids for developing concepts among handicapped (deaf) children”, NCERT.

The main objective was to find out the effectiveness of the teaching-aid method based on the Concept Attainment Model as compared to the effectiveness of the normal teaching method.
The sample studied were selected from Lady Noyce School for the deaf, Delhi. About 30 students from Classes I to V (excepting Class-III) were selected.

Major findings: 1) The teaching-aid method was found superior to the normal teaching method for the development of concepts among deaf children of Standards I and II. 2) The teaching-aid method could not establish a significant difference over the normal teaching method for Standard IV and Standard V children. But it did show a hierarchical order, from the teaching-aid method to the normal teaching method in terms of effectiveness due to high mean score in teaching-aid method and low mean score in normal teaching method.


The study was based on a review of the related literature.

Major Findings: 1) Loss of sight does not produce any special behaviour among the blind. 2) Maladjustment in society, and unsuitable school settings and family environment are the most prominent factors which lead to academic retardation of the visually handicapped. 3) After completing pre-primary or primary education at special institutions, emphasis should be laid on placing the visually handicapped in integrated educational settings.


The sample of the study comprised 200 children (100 normal and 100
orthopaedically handicapped), who were in the age range of 13-18 years. The collected data were treated with mean, SD and 't-test'.

Major Findings: 1) Self-concept of normal children was significantly better than that of the handicapped children. 2) Handicapped children achieved significantly higher mean scores on Order, and Abasement needs, whereas the normal children’s mean score was significantly higher on Change need. 3) Normal children were found to be significantly more intelligent than the handicapped ones. 4) No significant difference existed between the self-concept of boys and girls. 5) No significant difference was found between the self-concept of 13-15 years old and 16-18 years old handicapped children. 6) Handicapped children of 13-15 years achieved significantly higher mean value on Order need and lower mean value on Aggression need than the 16-18 years handicapped children. 7) No significant difference existed between the intelligence of handicapped boys and girls.

**Chengappa, Shyamala, (1989),** did a study on, “Speech and languages behaviour of the Cerebral Palsied”, University of Mysore.

The main objective was to investigate and identify the speech and language patterns of cerebral palsied children.

The sample comprised nine cerebral palsied children (six spastics and three athotoids, aged 4-10 years) having mild, moderate severity of the disability and normal intelligence.

Major findings: 1) Various deficiencies and deviances in terms of speech and language behaviour of cerebral palsied children were highlighted.
2) Dysarthria, poor intelligibility, delay in language development, limited language output, incomplete and deficient linguistic structures, expressive aphasia, pronominal reversal and confusion were some of the language deficits and deviations seen. (3) Language comprehension was much better than language expression in both types of cerebral palsied children.


Representative samples of disabled students of the final year vocational course from 50 schools offering vocational education in Tamil Nadu were drawn through the random sampling technique.

**Major Findings:** 1) The vocational training imparted was not in accordance with the interests and aspirations of the disabled students. Rather it was in accordance with the needs and aspirations of the institutions. 2) Principals perceived unsuitable curriculum for vocational education. 3) Disabled students found it difficult to cope up with the school programme which often resulted in disciplinary problems.

**Sharma, Premlata (1989)**, studied on “A study to explore the linguistic competence of the hearing-impaired in IED and in special schools of Haryana and Delhi”, NCERT.

The main objectives of the study were to explore the linguistic competence of the hearing-impaired studying in special and in normal schools, through the case study approach, and to compare the levels of linguistic competence with the levels of the hearing-impaired children attending normal schools.
The sample comprised 48 hearing-impaired students from special schools and 48 hearing-impaired students from the normal schools of Delhi and Haryana. Mean, SD, 't'-test and correlation techniques were used to treat the data.

Major Findings: 1) The linguistic competence attained by the hearing-impaired of special schools was less than that of the hearing-impaired of the IED schools. 2) The hearing-impaired children of special schools were found to be significantly better on their intelligence than the IED children.


The sample comprised 275 children of Grades IV to VIII of municipal or government schools. Out of 275 children, 175 children, 156 were normal and 119 were deaf.

Major Findings: 1) Deaf children did not differ from normal children in perceptions of parental behaviour and perspective-taking ability. 2) On academic achievement, non-institutionalised children were found to be significantly better. 3) Institutionalised deaf boys had better perception of parental behaviour than non-institutionalised boys, but on perspective-taking ability, no difference was found between the two. 4) The institutionalised and the non-institutionalised girls did not differ on perceptions of parental behaviour and perspective-taking ability.

Mukhopadhyay, S. and Sharma, V. (1990), studied on, “Identifying
teaching competencies specifically for integrated education of the disabled children", NIEPA.

The study covered a sample of 33 teachers drawn from a model school for blind children run by the NIVH and three special schools located in Delhi and Dehradun and two integrated schools for the blind at Coimbatore and Delhi.

Major Findings: 1) It was found that the teachers had a positive attitude towards equal educational opportunity for disabled children in integrated classrooms. 2) The male and female teachers did not differ in their perception of skills required for enhancing integration. 3) Special schools did differ in their perceptions of pattern of ranking. However, it was found that more importance was given to competencies such as setting of a social goal, followed by planning teaching activities.


The sample comprised 27 visually impaired children of Standards VI and VII in the Government School for the Blind, Madurai, and St. Joseph’s School for the Blind, Paravai. The collected data were treated with mean, SD and ‘t’ test.

Major Findings: 1) The VI children learned more science concepts when they were taught through the specially prepared teaching-learning materials. 2) The learning package on science teaching for VI children was found effective.
Phoola, K. (1990), conducted a study on "A study of physically handicapped children in Jammu province", University of Jammu.

The sample comprised 600 students of various randomly selected high and higher secondary institutions during the session 1986-87. The collected data were treated with coefficient of correlation and 't'-tests.

Major Findings: 1) There was a substantial negative relationship between physical handicap and intelligence. 2) The PH were found to be highly insecure. 3) Poor academic achievement and physical disability were found to be highly related. 4) The PH showed poor relationship with parents, teachers and peer group. 5) The PH boys were more intelligent, better adjusted to health, social, emotional and school areas and developed insecure feelings, kept poor relationship with parents but better relationship with peer group. 6) The PH girls felt more insecure than the boys. 7) The handicapped boys and girls differed significantly on obstacle dominance, and ego defense reactions to frustration. 8) The PH boys tended to be more aggressive as compared to girls.

Ramaa, S. (1990), conducted a study on, "Study of neuro-psychological processes and logico-mathematical structure among the dyscalculics", Regional College of Education, RCE, Mysore.

In order to identify dyscalculics, 10 primary schools (both govt. and private) of Kannada medium located in Mysore city were selected. Finally, 15 were identified as dyscalculics based on the diagnosis.

Major findings : 1) Dyscalculics differed among themselves in acquiring
certain most basic skills, and a majority of them experienced difficulty in reading and writing. 2) They experienced more difficulty in multiplication and division and also found in solving simple problem of addition and subtraction. 3) Almost all the Dyscalculics of the present study failed to solve problems involving spatial and numerical relations. 4) Majority of the children with dyscalculia experienced difficulty in serializing the objects, dolls and sticks height-wise and length-wise. 5) With regard to conservation ability, only a few were conserves of judgement of invariance of number and a few conserves of length. 6) With regard to classification ability among dyscalculics, only 50% of Grade IV could classify a set of signs in terms of odd and even numbers.

**Sharma, I.P. (1990),** conducted a study on, "A comparative study of the personality traits, interests and aspirations of high-creative and low-creative physically handicapped students of higher secondary schools", Rohilkhand University.

The sample comprised 500 PH students, covering 400 boys and 100 girls of Classes-X, XI and XII. Mean, SD, and 't' tests were used to treat the data.

**Major Findings:** 1) Among the PH students, boys were found to be more creative than girls. 2) No significant difference was found between rural and urban students on creativity tests. 3) On the interest inventory, high-creative handicapped students scored higher mean values in the areas of fine arts, science and technical work, while the low-creative group had shown more interest in crafts. 4) No significant difference was found in the level of aspiration of high-creative and low-creative handicapped children.

The main objectives were to study the temperament of handicapped children, and to investigate the impact of a handicapped child on the family.

The sample consisted of the mothers of 50 PH children, 50 MR children and 50 normal children. The statistical treatment of the data included two-way ANOVA, ‘t-test’ and correlations.

**Major Findings**: 1) No significant difference was found on orientation towards child-rearing, knowledge of handicap and attitude towards the handicap. Mothers of PH children had more favourable attitude towards management of the handicap than mothers of MR children. 2) Parents of normal children had better marital adjustment than those of handicapped children. 3) Normal children were more sociable, emotional, energetic and distractable than handicapped children. 4) PH children were found to be more sociable and distractable, but less emotional than the MR children. 5) Boys were more energetic, more sociable and distractable than girls in both the handicapped groups. Normal girls were more sociable and distractable than the boys.


112 samples (boys and girls) selected from class-VII to X from 3 schools. Out of 112, 28 each were identified belonging to four groups - advantaged competent, advantaged incompetent, disadvantaged competent and
disadvantaged incompetent.

Major Findings: 1) Despite the socio-economic deprivations, the invulnerable children were found to have a healthy reciprocal family psychological climate. 2) The invulnerable children were found more competent than the vulnerable and were comparable to the advantaged-competent children. 3) The advantaged-incompetent and vulnerable children indicated a 'Learned Helplessness Syndrome'. 4) The advantaged-incompetent children showed dissatisfaction with their environment. So, invulnerable children were affected by adverse conditions of environmental deprivators or stresses, but damage was not severe. 5) Invulnerable children were prepared to face problems and crisis.


The sample comprised 190 VH children studying in Classes I to VII, their age ranging from 6 to 16 years.

Major Findings: 1) Most of the VH children processed from stage I to III directly. 2) VH children attained the COS at a later stage as compared to the sighted children. 3) There was no significant relationship found between the nature of handicap and the COS of VH children. 4) The relationship between COS of VH and the type of management in their schools was not significant. 5) There was no significant relationship between the COS and the sex of the VH children.

Mandke, Kalyani. N. (1991), studied on, "Effect of single modality
stimulation upon speech and language development of hard of hearing children”, Tilak College of Education, Pune.

The sample comprised 40 children in the experimental group and 20 children in the control group. The analysis of the data were done using 't'-test and ANOVA.

Major Findings: 1) On the test of nouns, children could identify all the ten items and they answered in the form of complete sentences. 2) Children developed the concept of singular and plural number, gender, usage of adjectives, verbs, prepositions, cases and story telling. 3) It was found that there were significant differences in the case of the pre-test and post - test scores in both the experimental groups but not in the control group. 4) Children with profound hearing loss proved better candidates for speech - reading. These children were considered for visual-modality stimulation.


The main objective of the study was to evolve teaching steps for the LD children.

The sample consisted of four LD children, among them two were boys and two girls.

Major Findings: 1) with training and following the teaching steps the disabled could perform in a better way. 2) with repetition, the subjects' performance improved. Thus the defect did not lie with the teaching procedures as the subjects' performance was increased, though the improved performance
remained for a shorter period. 3) With repetitive training and more assessment, the subjects could improve and retain in the memory for a longer period.


The main objective was to examine the extent to which home environmental variables affect language acquisition of the LD and normal children.

The sample consisted of 26 children divided into two sub-groups on the basis of normal and LD status. The tools used included home environment questionnaire and TOSAs.

Major Findings : 1) Parental aspiration and living conditions of the home environment had a significant effect on the TOSA. 2) The normal children differed from the disabled children on their home environment in favour of the enriched home environment. 3) TOSA had relationship with the home environmental factor but it was not high. 4) The parent-child interaction and mass media had a significant relationship.

**Mohapatra, S. (1991)**, studied on, "Reading, memory and attention process of normal and reading disabled children", Utkal University.

The sample comprised 40 students (20 were normal and 20 were RD). Mean, SD, and ANOVA were calculated to treat the collected data.

Major Findings : 1) The normal and the RD children did not differ with respect to their intelligence. 2) In the case of decoding score, the normal
subjects of both grades performed better than the RD subjects. 3) In the case of oral reading errors, the normal children made significantly less errors than the RD children. 4) There was no significant difference in the letter cancellation times as an effect of grade as well as an effect of reading ability.


The main objective of the study was to find out the different attitudes of the parents, teachers and the community members towards various groups of disabled children.

The sample consisted of 100 parents having disabled children, 100 teachers, and 100 community members. Mean, SD, and ANOVA with repeated measures were used to treat the data.

Major Findings : 1) Attitude is dependent upon the sex of the people, whether they are teachers, parents or community members. In general, females showed favourable attitudes towards normal, HI, VI, and severely MR children on the evaluative dimension. 2) Males showed more favourable attitude towards the EMR and SI. Female parents had significantly made favourable attitudes than the male parents. 3) Parents, teachers and community members revealed differential attitudes towards the disability groups. Teachers showed negative attitudes to the severely MR and the neurologically impaired epileptics. Parents were less negatively disposed towards these groups than teachers. Community members were negatively disposed towards the severely MR.

**Pandey, S.P. (1991),** studied on, "A study of the disabled in the rural...
society of eastern Uttar Pradesh with special reference to Bahraich, Deoria, Pratapgarh and Ballia”, Pandit Govind Ballabh Pant Institute of Studies in Rural Development, Lucknow.

The sample comprised 400 male and female disabled, 400 heads of families and 400 neighbours from four selected districts of eastern Uttar Pradesh. The percentage method was used to treat the collected data.

Major Findings: 1) It was found that from among the total sample of the disabled, 16% were totally blind, 10.5% were dumb, 11.5% were MR and 3% were leper cases. 2) Most of the people did not want to mix with the disabled and look down upon them (52% of the disabled reported). 3) The disabled were unwelcome in community places like schools, temples, parks, public wells etc. 4) The educational level of the disabled was poor as they belonged to the poorer sections of society. 5) Developmental plans related to the disabled had little coverage in the rural areas.


The sample comprised 34 children in the age-group of 3 to 12 years. The collected data were subjected to percentiles and ‘t’ ratios and analysed accordingly.

Major Findings: 1) During the programme the children developed a positive social behaviour such as answering, taking turns, volunteering for work, etc.
In most of the cases the increase in the positive behaviour was doubled in the third phase. This was an indication of good socialisation of the children.

2) The children were expected to pick up some higher social behavioural traits, such as admiring the good work done by others, feeling free in the presence of strangers, etc. 3) As a result of parents' awareness programme, the parents became aware of the positive points, such as, the residual hearing of the child. They realised the necessity of teaching the child to lip-read. 4) Parents gave up many wrong concepts regarding their HI child and developed the right concepts in many respects. 5) At the end of the project, parents became more attentive towards the problems of the child.


Major Findings: It has been found from the review that co-operative-learning experiences promote a closer relationship between the disabled and the non-disabled. When learning situations are structured co-operatively and they work together, they interact in positive ways, feel supported and encouraged to achieve. The five major sets of strategies for structuring co-operative learning include a) clearly specifying the objectives of the lessons; b) decision about placing of students and size of the group; c) explaining the task, positive inter-dependence and learning activities in students; d) monitoring the learning groups and intervening to provide task assistance; and e) evaluating students in their achievement.

approach for teaching children with learning difficulties in reading and comprehension skills”, Utkal University.

A small group was chosen as sample after careful screening of over 15 children enrolled in special education programme at open learning system, Bhubaneswar. Simple percentages were used to analyse the data.

Major Finding : It was found that there was improvement in scores in the post-training session as compared to the pre-testing scores.


The sample comprised 90 children, covering 27 blind children, 34 deaf and dumb children, and 29 normal children of Standard IV, V and VI. Mean, SD and 't' test were used to treat the data.

Major Findings : 1) The normal children showed much better behavioural functioning as compared to the blind, the deaf and the dumb. 2) The blind, deaf and the dumb children exhibited low self-concept as compared to the normal ones. But the blind children did not differ significantly from the deaf children with regard to their self-concept. 3) The blind children differed significantly from the deaf, dumb and the normal children with regard to disturbed relationship with peers. The deaf and the dumb children were able to maintain good relations with peers just like normal children. 4) The blind, deaf, and the dumb children showed more social-emotional problems, as compared to normal children.

The sample comprised 400 SL of Class-IX, having IQ below 90 and 100 male and 100 females SL having an IQ between 70 and 79 were chosen. The collected data were treated with Mean, SD, ‘t-test’ and ANOVA. Further, graphical representations were also used.

Major Findings: 1) SL of both sexes under the first category displayed much better learning speed than their counterparts in the second category. The learning speed of the SL increased with practice. 2) The SL has a lower level of intellectual development than the normal. So, the SL had low levels of intellectual factors. 3) The male and female SL had a poor level of vocational interest. 4) Male SL had a lower level of values than normal on political, theoretical and economic values, but higher on social and aesthetic values. Female SL had low levels of religious and economic values only.

Lal, Alka (1992), studied on “A study of the personality, mutual perception, attitude and vocation preference of the blind and the sighted”, University of Allahabad.

The sample comprised 300 blind and sighted boys and girls of Standards IX to XII, institutionalised in schools for the VH in Delhi. The data collected were analysed using the mean, SD, and ‘t-test’.

Major Findings: 1) It was found that the blind boys and girls, and the sighted boys and girls differed significantly on all aspects of vocational interest record. 2) Sighted and blind boys, sighted and blind girls, sighted boys and
blind girls differed significantly on all the ten needs of Meenakshi Personality Inventory. 3) Sighted and blind boys differed significantly on the rejection-acceptance, unworthy-worth, anxious-relaxed, withdrawn-participating dimensions of the rating scale. 4) All the five groups differed significantly on anxiety. 5) The blind and the sighted did not differ significantly on their mutual perception.

Prabhat sing, Chudasama Raghubha (1992) studied on “A study of the adjustment, aggressiveness, achievement-motivation and self-concept of physically handicapped students as compared to normal students”, Saurashtra University.

The main objective was to compare PH children with normal children on adjustment, aggressiveness, achievement-motivation and self-concept.

The sample consisted of 426 normal and 426 PH students, drawn from six different districts of Gujarat. Mean, SD, and ‘t’-test were used to treat the data.

Major Findings : 1) The physically handicapped and the normal children did not differ significantly as far as aggressiveness and achievement-motivation were concerned. 2) Normal boys were superior to PH boys and normal girls were superior top PH girls with respect to self-concept.

Sharma, Premiata and Pandey, Savitha (1992), conducted a study on, “An experimental study to assess the effectiveness of adapted instructional material in science on hearing-impaired from IED and special schools”, Regional College of Education, Mysore.
The sample comprised 327 students (90 normal hearing and 237 HI children) from Classes-I to VII drawn from eight schools (both IED and special schools) of Delhi, Haryana and Karnataka. Mean, SD, 't' and F-test were used to treat the data collected from pre-test and post-test scores.

Major Findings: 1) The performance of the HI from IED and special schools on post-test was better than on the pre-test. But the performance of Classes II and IV of special schools was better than the students of Classes II and IV studying in IED settings, both on pre-test and post-test. 2) The HI from Classes V to VII from IED setting, in general, had performed better than the HI studying in special schools, on both pre-test and post-test. The performance of the HI from the IED setting on post-test was significantly better than the pre-test. 3) Significantly differences were found on age variables, but not so on gender variables among the HI in both the settings.


The sample comprised 150 elementary school children (75 male and 75 female) of ages 8, 9 and 10 years belonging to three religions, i.e. Hindu, Muslim and Christian. The statistics used included mean, SD, 't' test and ANOVA.

Major Findings: 1) Age has a significant influence on disability in reading, language, writing and spelling. 2) There was no significant difference between boys and girls in their disabilities in reading, arithmetic, language and spelling but sex had a definite bearing on the writing disability of the LD. 3) The
Hindus, Muslims and Christians did not differ significantly on five learning disabilities.

Ms. Lalithamma (2007), University of Mysore took up a study on “Promoting Better Educational Facilities for children with Hearing Impairment”. The study revealed many classroom problems of HI children and the study was concluded by giving some suggestions -

* HI children are to be treated at par with children without HI in all walks of life.

* The curriculum should be child-friendly and build-up the self esteem of each child.

* Adequate opportunity should be provided for nurturing multiple intelligence, leading to unfolding of full potential in each student.

* The teacher should focus on information processing rather than information giving; to play a facilitator’s role in the classroom, by providing suitable learning environment to all types of children with different background and century capabilities.

* As HI students find it difficult to communicate at the secondary level due to the absence of a uniform sign language and also due to limited vocabulary, so it is suggested to develop sign language dictionary which has been developed by Sri Ramkrishna Mission Vidyalaya, Coimbatore covering 1,800 words and phrases for all levels of HI children.
3. STUDIES DONE IN ASSAM:

Ali, I (1989), undertook a study on “Personality Adjustment of the Physically Handicapped Boys (deaf and dumb)”.

The study was designed to investigate different problems of personality adjustment of the PH boys of Assam and also to develop an adjustment inventory for their measurement.

It was found that the deaf and dumb students, because of their physical distress and deficiency of hearing and speeches found more adjustment problems in all the areas. The adjustment inventory with five adjustment areas was applied to derive valuable information regarding personality adjustment. But surprisingly it was found that the PH students were found to be more adjusted than the normal students.

Bora, M (1989), conducted a study on “A study of the problems of deaf-mute and blind children and existing educational facilities with special reference to Greater Guwahati”.

The main objective of the study is to reduce the intensity of the hurdle of the deaf-mute and blind children and to help him to promote in him a healthy self-respect.

The major findings of the study are -

i) There is a lack of school for the deaf and dumb and blind children in Greater Guwahati.

ii) Lack of vocational training centre and vocational rehabilitation for the handicapped.
iii) Quality education has not been observed due to the problem of teacher training.

iv) There is lack of different teaching aids for the blind and deaf and dumb children.

v) Defective curriculum is another educational problem that faced by the blind and deaf and dumb students.


The main objectives of the study was to find out the existing educational, vocational and rehabilitation facilities for the PH students in the state of Assam and also to study the physical, emotional and social problems of the PH students.

Major Findings : i) There is lack of adequate number of qualified and specially trained teachers in all the educational institutions. ii) There are no proper hostel facilities in all the schools. iii) There is dearth of teaching aids and equipment in all the educational institutions of the blind and deaf and dumb students. iv) There is no proper facilities for vocational training in all the educational institutions. v) There is no medical unit attached to the institutions for regular check-up. vi) There is also lack of awareness among the parents regarding the existing educational and vocational facilities for the physically handicapped.

Major objectives: i) To find out the facilities provided to handicapped children. ii) To ascertain the methods of teaching applied by the teachers of handicapped institutions, and iii) To make an in-depth study for the factors responsible for slow progress of handicapped children in education specially in Guwahati.

Major Findings: i) There is dearth of good institutions for the handicapped children in the region. ii) The attitude of our society towards the handicapped persons is not healthy and even most of the parents neglect their handicapped children as burden. iii) The teaching equipments for the handicapped students are not available in the educational institutions. iv) The growth of rehabilitation centre for handicapped also not properly available. v) There is no higher educational facilities for the handicapped students. vi) The policies adopted by the Government for handicapped are not eventually exercised by the officials.

Gogoi, A. (1999), studied on “Educational problem of blind children as faced by the teachers of blind school”.

The main objective was to study the teaching problems of blind children as faced by the teachers of blind school in Assam at Guwahati, Nagaon and Jorhat Blind School.

Major Findings: i) The study revealed that VI children have a poor IQ. ii) Most of the VI children are found in rural and backward areas. iii) Poverty is another factor, which leads to problem of education of blind children. iv) The distribution of educational institutions for VI are not proper for which the rural blind children are not able to get any information regarding educational facilities. v) Lack of trained teachers is another educational problem of the VI children.
vi) There is absence of proper extra-curricular activities for the VI children.

vii) Financial position of the institutions are very poor which they are unable to meet the needs of the education. viii) There is also no proper medical facilities available in the educational institutions of the blind children.

Baruah, S. (2007), undertook a study on "A study of social and emotional problems of physically challenged children as faced by the teachers in schools of greater Guwahati area".

The main objective of the study were i) To study the the social problems of physically challenged children, and ii) To study the emotional problems of physically challenged children.

Major Findings (Associated with social problems): i) Most of the physically challenged children like to play and participate in co-curricular activities. ii) Blind students are more friendly and co-operative to each other than the deaf and dumb students. iii) Regarding participation in different activities, 50% of both the categories student are willing to participate in this regard. iv) Leadership quality is poor in both the categories children, but compared to deaf and dumb, the blind students have the leadership quality.

Major Findings (associated with emotional problems): i) 50 percent of blind and deaf & dumb children are worried about their disabilities. ii) Both the categories children lose their temper very easily. iii) 43 percent of both the categories children were found to be in a state of melancholy mood which is the major emotional problem. iv) They also suffer from inferiority complex. v) The study also revealed that 60 percent of physically challenged children were easily become angry.
The general finding of the study was that there was no significant difference between the blind and deaf & dumb children with regards to social and emotional problems.

**Some Indian studies done in the area of Integrated, Mainstreamed and Inclusive Education:**

Ever since the legislation has been passed with the proclamation of person With Disability Act (PWD Act), 1995, people in general, teachers, managers and researchers have expressed their concern about the inclusion of persons with disabilities in all aspects of life. But still the effects made by the institutions in the area of research in this respect are so few in member that they can be counted on fingers. Here, it may be made clear that researches which have focused on specific disability areas and giftedness have been categorized under the heading of special education and researches that have identified samples of PWD from the general population of either schools or places of work were Persons With Disabilities and Persons Without Disabilities work together have been categorised under the heading of integrated or inclusive education.

As a very few researches in this area of inclusive education have been reported and documented, therefore, here the investigator has reviewed a few research work on integrated, mainstreamed and inclusive education which are listed below-

**Researches on Integrated Education**

*Gupta and Singh (1994)*, studied the status of science teaching in Indian
school for the VI children. 189 integrated and 407 special schools from over India were used as samples to mail questionnaire. Only 29 schools both special and integrated responded to the mailed questionnaire, which finally constituted the sample. The research concluded that the quality of science teaching for VI was much below the expected standard in both types of schools.

Lali (1995), conducted a comparative study of the scholastic performance of the VH pupils studying under the integrated system with that of the normal pupils in classes-VIII, IX & X in secondary school of Kerala.

Jaywant and Pathak (1995), also carried out an exploratory study of deaf children in integrated units of normal schools in Pune.

Punani (1997), documented the comparative effectiveness of different modes of education of the VI with respect to a number of pre-determined objectives. The sample comprised a total of 130 VI children, out of 130, 50 children were from integrated education and 54 from residential schools. The age ranged between 10-15 years who were studying in classes-IV, V and VI. The study found i) integrated education to be more effective than residential education. ii) no difference in the coverage of congenitally blind children in the three modes of education. iii) semi-integrated was most effective in enrolling the children who had it.

Sharma (1997), conducted a study to find out the effectiveness of a modified instructional material in science for teaching difficult concepts to VI children studying in class-II to class-V in integrated and special schools. The findings revealed that the adaptation of the instructional material enhanced the level of performance of the subjects with HI. Children from integrated
school performed better than those studying in special schools.

**Researches on the Mainstreamed Education**

*Swarup and Mehta (1991, 1993)*, studied and developed a series of diagnostic tests of learning disabilities for the children in the age range of 8 - 11 years. The tests called "The Behavioural Checklist for Screening the Learning Disabled" (BCSLD); The Diagnostic Test of Learning Disabilities (DTLD) and Swarup- Mehta Test of Thinking Strategies (TTS) can be administered by school teachers in their regular classes. The tools have been very extensively used by the researchers from the field of education, special education, psychology and medicine. Even para-medical professionals such as occupational therapists and speech therapists have also used these tools for identification of the LDs from general classrooms.

*Prasad and Srivastava (1992)*, studied the perceptual motor problems of LD and NLD children in the age range of 5-10 years. The sample was selected from various types of schools such as convent schools with superior physical facilities and Nagarpalika Schools with very poor infrastructure, from both rural and urban areas. The result implied that the children who are poor in perceptual skills are also inferior in their academic performance.

*Sharma (1993)*, attempted to examine the difference in the personality characteristics of the LD and the NLD children identified in the standard III, IV & V from urban and rural localities of the four districts of Rayalaseema, Andhra Pradesh. The study also assessed the efficacy of intervention programmes developed specially for parents, teachers and the LD children in
improving the academic performance and children with varied learning disabilities.

**Swarup and Sharma (1993),** studied the effect of cognitive-behavioural training on the written syntax of the LD children in the age range of 10-14 years. The study showed implications in terms of creating an awareness of learning problems in syntax faced by the students in the normal school setting. Further it focused attention on the need for specific instruction, modelling, immediate feedback in writing tasks and practice in free expressions of writing, so that the children master the necessary skills.

**Mehta (1994),** in her Ph.D study overcoming learning disability by developing thinking strategies through meta-cognition, reported that the students studying in IV standard were average intelligent, but scholastically backward. Results and analysis indicated that - 1) strategy training programme was effective in improving thinking skills of the subject, 2) Training in meta-cognitive strategies spilled over to academic areas and resulted in an improved performance in the other curricular areas, specially language and mathematics.

**Sethia, Singha and Saxena (1994),** identified a sample of 20 LD and 20 NLD children from various school of Agra and studied controlled processing among LD children. LD were found to be deficient in controlled processing.

**Saxena (1995),** studied the temperamental traits of SL, both boys and girls studying in class-IX of 35 higher secondary school of Jaipur City. He found sex differences in the development of temperamental traits.
Aminabhavi (1996), studied the adjustmental ability of post-graduate physically disabled and abled students from the colleges of Dharwad & Belgaum. It was found that physically disabled were maladjusted with respect to family, emotion, mode and leadership aspects.

Bose (1996), assessed the effectiveness of computer programmes a remedial strategy for overcoming specific learning disabilities. Computer-based learning resulted in enhancement of performance by 5% in Maths and 7% in English. The experimental group showed higher gains than the control group.

Gupta, et. al. (1996), studied the incidence and nature of learning disabilities at the end of class-II. They reported 7% incidence of learning disability at Grade-III level in Government primary schools of schore block of Madhya Pradesh. All the subjects identified as LD in a general class showed deficits in Hindi, oral reading and comprehension, written expression; and arithmetic deficiencies were observed in terms of mathematical operations, seriation, visual spatial orientation, auditory sequential memory, concept formation, verbal, numerical, temporal relationship and visual auditory association.

Paranjpe (1996), compared the achievement in language & mathematics of normal and hearing handicapped pupils studying in class-IV of five general schools in Pune. Achievement in language was different in children with and without hearing impairment. Sex didnot yield difference in performance within the two groups. HI students performed better in Maths after they were integrated from special schooling than those who were already in the mainstream.
Vaijayanthi (1997) and Meera (1997), studied the academic problems of the LD children in the primary schools. A sample of 120 LD girls and 120 boys was selected from 34 general schools located in Coimbatore. The study reported common behaviour and problems faced by LD boys and girls in different types of schools and classes.

Umadevi (1997), studied the effectiveness of remedial programme on improving reading comprehension skills of dyslexic children studying in standard IV of English medium schools in Devangiri city. The results showed significant positive improvement in the reading comprehension skills of the subjects.

Geeta (1998), developed a remedial package and assessed its efficacy in augmenting primary school teachers’ skill to help dyscalculic children. The sample of dyscalculic children was identified from standard I to V. The package was found to be effective for teachers.

Julka (1998), studied teacher empowerment and successful mainstreaming of VI children. The study aimed at examining the various issues and the role of regular and special teacher related to the education of the VI children in mainstream schools. The researcher concluded that if inclusive education is to be the focus of educational policy in near future, the reciprocal role of regular and special teachers would be crucial. Parents need to be counselled before children are integrated in mainstream schools. Children with visual impairment should not be segregated and regular school teachers be given appropriate incentives for modifying the learning environment for the VI.
Swarup (1999), developed a meta cognitive strategy training programme called STEL for the children with learning disability in the mainstreams class. The objective was to help all students including the LD to learn & develop strategies for effective acquisition, retention & recall of information and also for development of effective thinking and problem solving skills which would make them independent learners.

Swarup and Chopra (2002), studied the typical behaviours of children as having ADHD in mainstream class in eight private medium schools in Mumbai. Individualised management plans were developed for the teacher and parents separately to be executed over a period of 2 weeks in sessions of 30-45 minutes. Both the teachers and parents were interviewed using rating scales and their ratings matched on most of the behaviours. The intensity of identified behaviours such as attentional problems, hyperactivity, impulsivity, social clumsiness, demanding behaviour and emotionality was studied and remediated using the management plan developed by the researchers.

Researches on Inclusive Education

Shevde (1997), conducted a feasibility study of models of inclusive education. She had tested the feasibility of three models.

A number of factors stated as essential for inclusive education - a flexible curriculum, a different system of evaluation and changes in the organisation of the classroom. A commonly stated concern was that the effect of inclusion if initiated without the support system would increase the work load of the regular school teachers. Parental resistance also came out to be a strong
factor among the barriers to inclusive education. It was felt desirable that the parental involvement be increased.

Swarup (1998), developed and tested the feasibility of a teaching learning programme called “Learning Enhancement and Progress” (LEAP) for general school teachers to “make inclusion a reality through co-operative learning”. The programme was based on the principles of co-operative learning and was aimed at answering most oftenly asked question - “How to manage children with special learning needs in a large class of 70-80 children?”. This programme was presented in the National Conference on Dyslexia held at Chennai organised by Madras Dyslexia Association.

Zaveri (2001), developed an awareness module on Inclusive Education for students with disabilities for administrators with teachers of general schools. The module was implemented using “printed media” approach and “interactive approach”. The result indicated equal effectiveness of both the approaches for creating awareness. The teachers felt inclusion to be desirable but not feasible. Factors such as large class size, vast curriculum content, lack of training and awareness to deal with the handicapped population, rigid curriculum and time framework seem to be pervasive in present educational system.

Justification of doing review of literatures:

After reviewing various studies in the field of special children done in abroad as well as in our country, the investigator feels that the present research work is justified on the ground that in our country & more particularly in the
state of Assam, a very few studies have been undertaken pertaining to the physically challenged children. Till date, the physically challenged (all categories) children are suffering from different kinds of problems inspite of being Differently-Abled. The state government is also totally apathetic in this regard. To the best of knowledge of the investigator no study has yet been undertaken to find out the academic achievement of Visually & Hearing impaired children of Assam.

The review of the different studies which have been stated above, given the investigator an ample opportunity and sufficient scope for the formation of objectives & hypotheses. As the diverse capabilities, talents and achievement relating to VI and HI children are yet to be exposed in the state of Assam, therefore, it has been considered worthwhile to make a study on Academic Achievement of Visually and Hearing Impaired children and the topic of the present study has been entitled as 'A Study on the Academic Achievement of the Visually and Hearing Impaired Children of Assam'.

The main purpose of the study is to find out the academic achievement of visually and hearing impaired children in relation to certain variable like - HSLC examination result, teachers' effectiveness, parental behaviour and awareness etc. With this aim in view, the reviewed literatures have helped the researcher to design the present study and to formulate the objectives which have been stated in chapter I.