CHAPTER-II

REVIEW OF RELATED LITERATURE

Studies related to personality of the blind
Studies related to Adjustment of the blind
Studies related to Self-concept of the blind
Other Psychological factors of the blind
Studies related to Intellectual factors of the blind
Studies related to School achievement of the blind
Studies related to Social factors of the blind
Studies related to Teachers of the blind
Studies related to Mainstreaming of the blind
The review of related studies involves locating, studying and evaluating reports of relevant researches and articles, published research abstracts, journals encyclopaedias etc. The investigator needs to acquire up-to-date information about what has been thought and done in a particular area. The researcher draws maximum benefits from the previous investigations, utilizes the previous findings, takes many hints from designs and procedures of previous researches and formulates an outline for future research. The review of related studies provides the insight into the methods, measures etc., employed by others in the particular area. It provides ideas, theories, explanations, hypotheses of research, valuable in formulating and studying the problem at hand. It also furnishes indispensable suggestions related to the problem and already employed techniques to the investigator. Unless it is learnt what others have done and still remains to be done in the area, one can't develop a research project that could contribute to furthering knowledge in the field. In fact, the review of related literature serves multiple purposes and is essential to a well designed research study. It is generally the first step in the research process, and it can contribute valuable information to any part of the research study. In the process of reviewing the
literature, the investigator is alert for finding out research approaches in the area that have proved to be sterile. However, for reviewing the related literature in an objective and scientific manner, the present investigator has followed the flowchart of activities in the review of related literature presented by Weirsma (1991). The flowchart is as under:-
FLOW CHART

Identify descriptors relevant to the problem

Identify sources such as an appropriate index or retrieval system

Identify titles of Potentially relevant reports

Locate copies of reports to be reviewed

Separate the reports in order or into categories of relevance or importance (Optional)

Delete non-relevant Reports

Prepare abstracts or summaries for the reports containing relevant information

Write the reviews of the related literature

Prepare a complete Bibliography
The investigator has quoted the studies in this chapter that have direct or indirect relevance with the present study. The studies quoted in this chapter have been classified factorwise as follows:

**STUDIES RELATED TO PERSONALITY FACTORS OF BLIND**

*Zehran's* (1965) study revealed that blind children possess the same personality characteristics, the drives, motives, needs and capacities as the sighted. There are no distinct personality problems produced by blindness but problems frequently arise from the reactions to their social environment. *Mohan, et.al* (1968) revealed the fact that no significant difference exists between the social adjustment of the two groups of adolescents, i.e., sighted and non-sighted. *Jain, Gupta and Singh* (1972) conducted a study on 51 blind and 51 sighted persons. Data was collected with the help of case history. Pareek's socio-economic scale (Rural) and Hindi version of Maudsley's Personality Inventory were (MDI) employed. The difference between the mean scores of both the groups was not found significant on neuroticism scale but they differed significantly (at .02 level) on extroversion scale, showing that blind are less extrovert in comparison to sighted.
Kang and Masoodi (1979) examined attitudes towards blindness among theology and education students (graduate) by taking samples from both conservative and liberal groups. A similarity of attitudes in both the groups was reported. Although education students reacted more unfavorably to 'rejection of intimacy' dimension, theology students reacted more unfavourably to blindness. Female students showed more favourable reaction to blindness than did male students. Bhargava and Lavania (1981) observed that sensory disabled were more reserved, emotionally unstable, obedient, shy, dependent, sentimental, secure and relaxed than their counterparts. Jaysree (1982) studied manneristic behaviour of visually handicapped and reported that manneristic behaviour among visually handicapped children is sometimes considered to be a device for releasing tension arising from anxiety and frustration. Using a test based on 17 mannerisms, the investigator infers that even sighted children also exhibit such behaviour in certain situations and that manneristic behaviour varies in different situations. Certain mannerisms tend to be more with visually handicapped, yet there does not exist a significant difference in this respect between sighted and visually handicapped children. From this follows that
mannerisms can be corrected through persuasion and guidance. **Battle and Blowers** (1982) undertook a comparative study of self-esteem of students in regular and special education classes, using culture-free self-esteem inventory for children and the perception of the ability scale to a selected group in regular and special classes. They concluded that students in special classes experience greater gains in self-esteem and perception of ability scores than those in regular classes. **Ashmead, et.al** (1989) conducted two experiments to test obstacle perception and navigation in 25 congenitally children (4-12 years old). In experiment 1, 10 subjects walked along a sidewalk toward a target location. A box was placed along the path on some trials. Subjects spent more time in front of the box than behind it, indicating that they perceived the box and acted so as to navigate around it. In experiment 2, 15 subjects attempted to discriminate whether the nearby disc was on their left or on their right. They performed at above chance levels, again indicating distal perception of objects. Results suggest that blind children with little or no visual experience or formal training use non-visual information presumably auditory, to perceive objects. **Lister, et.al** (1989) examined the extent to which the development of conservation concepts (CCs)
in 24 visually handicapped children (VHs, aged 5 years 6 mo to 17 years 2 mo) is similar to that in 50 sighted children (Subjects; aged 3 years 11 mo to 11 years 4 mo). There was strong support for similarity in order of acquisition of CCs by VHs and SCs. Scalogram analysis revealed a common, though not a single, ordering. VHs showed no delta in achieving CCs when compared with sighted subjects. VHs were similar to subjects in their range of explanations for their conservation judgements. Wainapel and Stanley (1989) conducted semi-structured telephone interviews with 10 visually-impaired adult cane users (26-69 years) to analyse the attitudes and emotions associated with their transition to cane – use. For subjects who had used cane longer, images of stigma, prominent during the early stages of orientation and mobility (O and M) training, were usually replaced by more positive attitudes. Several factors contributed to the delay between the onset of severe visual impairment and the commencement of O and M training: the inertia, fear of stigmation and difficulty in interfacing with the vision rehabilitation system. Aggarwal, et.al (1989) undertook 30 blind male residents (aged 11-19 years) of 2 Indian institutes for the visually impaired. The subjects were administered several personality inventories. All subjects had low levels of
alienation. Subduedness/independence was an important predictor for distinguishing between subjects who were blinded younger subjects those blinded when older. Intelligence may mediate the relationship between alienation and other psychological variables. Trudean, M., et.al (1990) examined the utility of perceptual training with specific emphasis on figure ground discrimination. Study participants were 20 subjects (Mean age 74 years) with low vision caused by age related macular degeneration. The relative effectiveness of in clinic and at home training was compared to a no training condition. Tests were a page of large print text and the Frosting Figure Ground Test. Results support the view that perceptual skills, such as figure ground discrimination, can be improved by practice and instruction, but there is a need for task specific training. Deshen, S. (1991) documented the operation of rejection and association as observed among 57 blind people (aged 35-50 years) in Israel. Many subjects entertained derogatory stereotypes of other blind people. Social formations of blind people are described in which the convolution of association and rejection can be seen to operate. Beggs, W. Alan (1991) examined whether slower-walking of visually-impaired pedestrians is due either to the impoverished visual
information available for the control of locomotion or to the strategic response to the stress associated with travel. Using a client-derived mood checklist with 55 partially-sighted clients in a vocational rehabilitation course, the latter hypothesis was confirmed. In contrast, visual status, as measured by both visual acuity and field loss, was un-related to percentage of preferred walking speed. Wulsin, et.al (1991) assessed Psychological functioning at 3 times over 8 MO in 28 adults (aged 21-60 years) with proliferative diabetic retionopathy and mild to moderate visual impairment in at least one eye. Measures included SCL-90 (revised). Examination of the correlation between visual and psychosocial in the range of mild to moderate impairment. Psychosocial dysfunctioning related to visual impairment seems to develop long before blindness. Needham, et.al (1992) on admission to a 3-mo adjustment to blindness rehabilitation programme, 45 blind men with previous psychiatric diagnoses or psychiatric /psychological treatment had more symptoms of distress than did 67 men without such histories. Staff ratings at the beginning and end of rehabilitation indicate no differences between these groups in skill, attitude and overall adjustment and all subjects improved significantly during rehabilitation.
Neither a history of psychological disorder nor test scores indicating severe emotional discomfort should exclude participation in residential rehabilitation for blind people, provided that the programme includes adequate psychological services.

Advani (1994) studied 200 blind students and concluded that blind children showed clear signs of emotional-insecurity, frustration and timidity. They showed no aggressiveness as was often alleged. In the younger age group 53% boys and 62% girls showed not just physical and psychological dependence, whereas in the older group girls were even worse. In the study 53% boys 87% girls were psychologically dependent, and 43% boys and 49% girls were highly frustrated. In older age group boys were highly adjusted and only 16% of them showed symptoms of frustration. In the older age 7% boys and no girls showed the signs of aggression. Farzana (1995) found that the correlation between educational aspiration and encouragement given by the father came out to be 0.99 which is highly and positively significant. It may be concluded that fathers' encouragement of high level helps their children in high educational aspiration and vice versa. Whereas the correlation between educational aspiration and mother's encouragement
came out to be insignificant 0.10. So it is concluded that mothers' encouragement does not play a significant role in the aspiration of visually disabled in the field of education. Further the investigator concluded that there exists no significant difference between visually disabled students belonging to class VI, VII and VIII to X on educational aspiration as the t-value came out to be 0.59, which is insignificant even at 0.05 level. It clearly indicates that standard of educational does not affect the aspiration in the educational field, i.e., at class VI or X the educational aspirations are not changed. Bhardwaj (1995) studied personality factors among handicapped and non-handicapped children. The investigator deduced the results with the use of Duncan's Range Test. He deduced that the developing traits of personality among children were sizothymia (A'), low-intelligence (B'), ego-weakness (C'), excitability (D'), lower super ego strength (G'), threctia (H') and shrewdness (N'). The existing difference between both the handicapped and non-handicapped lies only in degree and not in type. Low mental capacity (B-) exists as clinically low among all three types of children (Blind, Cerebral palsied and non-handicapped). The blind children showed more temperamental tantrum in their personality make up. The cerebral palsied children call for
clinical attention. Reddy (1997) employed the open-ended interview schedule to the sample of 960 subjects (age 11-15 years), the causes of unrest as well as mal-adjustment in the handicapped were noted. The angerwise main causes were:-

i. Dissatisfaction with the facilities in the hostels 92%
ii. Uncertainty about the future 90%
iii. Emotional insecurity 89%
iv. Unfavourable attitudes of society towards them 86%
v. Negligence and home 87%
vi. Lack of social support 85%
vii. Frustration 85%

The main findings were:-

i. Visually handicapped confront maximum number of problems of adjustment in areas like school, home, social issues, self-confidence and feelings of inferiority.

ii. The least affected group among all the three in terms of problem behaviour was the hearing and speech impaired.

iii. Orthopaedically handicapped were found to be much better than visually handicapped but worse than hearing and speech impaired on adjustment

iv. There were no sex differences among the groups as far as problems of adjustment were concerned.
STUDIES RELATED TO ADJUSTMENT OF BLIND

**Sommers** (1944) found that personal and social adjustments of blind adolescents as a group were below than that of sighted and blind girls were slightly better than that of blind boys. **Brieland** (1950) found that there is significant relationship between blindness and personality adjustment. The blind students were significantly inferior in health while the home adjustment did not show any significant difference. **Barker** (1953) reviewed fifteen studies in which various personality inventories were used. Of these studies six indicated that the blind had greater maladjustment than seeing group, while it did not demonstrate any consistent and significant differences between blind and the seeing group. **Petrucci** (1953) concluded that visually impaired adolescents tend to be more dependent and less assertive than their sighted counterparts. **Cowen** (1958) found no difference in adjustment among home living visually handicapped adolescents, visually handicapped adolescents attending residential schools and sighted adolescents. Home living visually handicapped adolescent boys were found to be better adjusted than females attending residential schools. **Caroll** (1961) found that loss of vision induces a variety of adjustment problems and personality
determinants. Harley, R.K. (1963) investigated the relationship between verbalism and adjustment of blind children and concluded that both of these factors are related with each other. Sublock (1976) concluded that visually impaired were somewhat satisfactorily adjusted in all areas but they were having the feeling of inferiority. Sharma (1977) observed that sensory handicapped individuals are emotionally maladjusted.

Monika Orkan-Lecka (1980) compared blind students adjustment to disability in two different settings through two instruments: the disability adjustment scale and the blind basic rehabilitation rating scale. Experimental students studied in normal high schools while living at home and controlled students lived in centres for the blind. The investigator observed that level of adjustment (to disability) much higher in adolescents studying in the integrated settings than those from special secondary schools. William (1981) surveyed adjustment of the blind and the deaf students in standards V, VI, VII of special schools of Karnatka. The sample comprised of all special schools of Mysore, Hubli, Gulbarga etc. Fifty one blind and sixty five deaf children were selected for the study. In the findings the blind children (classes VI and VII) showed higher level of home adjustment than those of class V. Both the blind
and the deaf had a low level of adjustment with their teachers. The blind showed better adjustment than the deaf in all standards. Sinha (1982) attempted to study the personality adjustment of the blind and the extent to which they have been able to adjust themselves on emotional, social and educational levels. The investigation revealed that the blind living in one hostel are as good in adjustment as others. Kaur, Singh and Jain (1984) attempted to investigate the emotional adjustment of normal and blind adolescents. The results revealed that there exists a difference between emotional adjustment of normal and blind adolescents. Teare (1985) examined behavioural adjustment of 23 partially sighted or blind students through child behaviour checklist (CBC) and observed that behavioural problems in blind students are as much influenced by cognitive as by visual functioning. Pandey (1985) studied the affectional deprivation, ego-strength and adjustment pattern among visually handicapped children and their rehabilitation. Conclusions are as under:

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 (CBC) and post-natally blind children (PBC).

iii. It was found that 10 blind children had poor ego-strength and poor adjustment. Emotionally they appeared immature and hence there was need for their rehabilitation.

**Sarita** (1985) attempted to study the adjustment pattern of visually handicapped and sighted students. The results are as under:-

i. Sighted students are more well adjusted than visually handicapped as far as emotional adjustment is concerned.

ii. The sighted students are socially well adjusted than the visually handicapped students.

iii. Visually handicapped children are poorly adjusted in educational area than sighted children.

iv. Overall adjustment (emotional, social, educational) in visually handicapped is poor than sighted students.

**Aggarwal and Kour** (1985) conducted a study to find out the anxiety and adjustment levels in visually and hearing impaired. Forty visually impaired and forty five hearing
impaired residential school children of age range 6-16 years comprised of the sample. Subjects were administered measures of adjustment and anxiety. Scores relating to intelligence and academic level, teachers and peers acceptance and biographical variables were also obtained. Findings revealed that correlates of anxiety and adjustment differed qualitatively as well as quantitatively between the groups. Veena Kumari (1986) studied adjustment pattern of visually handicapped in relation to their age. Findings of the study are as follows:

i. The adjustment mean scores of two groups (13-17 years and 18-22+ years) of visually handicapped on educational adjustment are 1.97 and 2.49 respectively, the F-value (0.98) is insignificant at 0.05 level. Therefore it may be concluded that both the groups of visually handicapped do not differ significantly on educational adjustment when they belong to residential school climate.

ii. The obtained F-value (4.83) has been found significant at 0.05 level of confidence indicating that the difference between the mean scores of both the groups (13-17 years and 18-22+ years) of visually handicapped on emotional adjustment is significant and real. Thus, it may be concluded that the visually handicapped of higher age are
emotionally less adjusted than their counterparts, i.e. visually handicapped of lower age group (13-17 years), though both of these groups have been placed in the same type of school environment, i.e., residential schools.

iii. There is no real difference between scores of total adjustment of both the groups of visually handicapped (13-17 years and 18-22\textsuperscript{+} years) when they belonged to the same residential environment, i.e., residential school setting as the F-value (3.08) calculated for this difference is insignificant at 0.05 level of confidence.

Sarita and Sharma (1987) conducted a study on 40 visually handicapped and 40 sighted students (boys and girls) of 14-18 years of age group. Adjustment inventory for school students by Sinha and Singh was administered. It was found that visually handicapped students were poorly adjusted in emotional, social and educational grounds. The visually handicapped were also poor in their total adjustment. Banerjee (1988) investigated into the adjustment of blind students in secondary schools. More blind students were found to be maladjusted than the sighted. Nearly one in five students was found to have a moderate levels of maladjustment with home environment, school environment and peers of the opposite sex.
Surprisingly the researcher found that the percentage of blind children, maladjusted to home environment was one and a half times more than the school environment. Haseenuddin (1992) undertook a comparative study of normal and handicapped school children in respect of adjustment and the results reveal that:

i. The handicapped boys and girls were found more adjusted than normal boys and girls. Adjustment levels of normal boys and normal girls were almost similar.

ii. The handicapped boys and handicapped girls did not show any significant difference on adjustment measure.

iii. The handicapped boys and girls were found more emotionally adjusted than normal boys and girls. The handicapped boys and girls did not show any significant difference on emotional adjustment.

iv. The handicapped boys and girls were found more educationally adjusted than normal boys and girls.

Beggs (1992) examined the psychological process underpinning successful travel and adjustment in 71 visually impaired 20-54 years old. Subjects of the study walked over a test route alone, and then responded to a questionnaire. Five
components descriptive of subjects feelings associated with travel were identified. These were:-

i. Self-efficacy (appraisal of threat and the ability to meet it)

ii. Vigilance (the need to be alert to what is happening)

iii. Role-acceptance (the tendency to attend to oneself).

iv. Disorientation and

v. Cognitive effort (the need to be as alert as possible during the journey)

Suggestions are made for helping clients cope with different types of emotional distress.

**STUDIES RELATED TO SELF-CONCEPT OF BLIND**

Singh, et.al (1971) attempted to make a comprehensive study of the self-concept of visually handicapped children in order to understand their personality dynamics. The sample consisted of 20 visually handicapped children of the Netrahin Chhatra Vidyalaya, Bhagalpur. An equal number of non-handicapped were selected from the schools of Bhagalpur. The two groups were matched with respect to age, sex and education. Sherrill, C. et.al (1990) examined self-concepts of 158 disabled athletes (aged 9-18 years). Subjects were English speaking and had either cerebral palsy, blindness, dwarfism,
spinal cord injury, amputations or less outress. Subjects completed the self-perception profile for adolescents, measuring global self-worth, scholastic, athletic and job competence, social competence, physical appearance, romantic appeal, behavioural conduct and close friendship. The hypothesis that these subjects would follow the same general pattern of able-bodied youth was supported. Subjects mean self concept scores fell within or close to the test manual’s range for able bodied youth. Obiakor, et.al (1990) compared the self-concepts of 61 visually impaired and 229 normally sighted children in grades 6, 7 and 8. Self concept was measured with the student self assessment inventory (SSAI, D. Muller et al., 1984, 1986) which assesses children’s self-knowledge, self-ideal, and self-esteem as related to physical maturity, peer relations, academic success and school adaptiveness. Visually impaired subjects scored higher than normally sighted subjects on 5 of the 12 SSAI sub-scales, refuting the notion that visually impaired children have poorer self-concepts than normally sighted children. Beaty (1991) administered Tennessee self-concept scale to 15 blind and low-vision adolescents (aged 12-19 years) and age-matched sighted peers from an urban environment to examine whether low-vision adolescents have lower self-
concepts. Results reveal significant differences in global self-concept, as well as specific self-concepts among these groups.

Reddy and Rajguru (1994) conducted a study to find out the significant differences if any, between totally blind and low-vision children with regard to their self-concept. It was found that there was a significant difference between the mean of totally blind and low-vision children with regard to self-concept scores. Totally blind children have higher self-concept than the low-vision children. The self-concept of visually disabled was positively correlated with their achievement, the socio-economic status of visually impaired children had least impact on their self-concept. Usmani (1999) found that there is high and positive correlation between the different subjects (Maths, Science, English, Social Science and Urdu) and self-concept of blind. Self-concept and achievement in different subjects is positively correlated. The study habits and achievement in different subjects came also to be positively correlated.

**OTHER PSYCHOLOGICAL FACTORS OF THE BLIND**

Cholden (1958) found that adventitiously blind, when they lost their sight, immediately showed a state of immobility or shock which is followed by a state of depression. Bateman
(1964) observed that visually impaired children perform below average in activities related to vision sense, visual association and visual memory. Imamura (1965) found dependent behaviour on the part of preschoolers during their interaction with their mother who have excessive pity feeling for them. Hartlage (1968) concluded that congenitally visually impaired children show relative deficit in the use of nonspatial concepts. In early school grades were found different and by late elementary years, visually impaired and sighed group were not obviously different. Agarwal and Kour (1985) conducted a study on 45 hearing impaired and 40 visually impaired residential school children. The results showed that correlates of anxiety and adjustment differed qualitatively as well as quantitatively between groups. Zaidi (1986) conducted a study on general anxiety and test anxiety of visually handicapped children in relation to their grades. The purpose of the study was to determine the significance of differences between general anxiety and test anxiety scores among visually handicapped children. Forty five (45) visually handicapped subjects studying in VI to VIII grade were randomly selected from two schools for the blind (Andh Vidyalya and Andh Mahavidyalya of New Delhi). Indian adaptation of general anxiety scale by Kumar
(1985) was used. The mean score of both the forms of anxiety were found to be more in the higher grade. Mastro, et.al (1987) attempted to investigate some psychological characteristics (Tension, depression, anger, vigour, fatigue and confusion) of elite visually impaired athletes and compared these findings with those reported in the literature on the bodied athletes. Thirty three (33) male of age group 16-32 and fifteen (15) female of age group 17-28 years were selected to carry out the study. It was concluded that male and female subjects differed significantly in tension, fatigue and confusion. Minu (1988) attempted to study anxiety and socio-economic status of visually impaired in relation to their academic status in English. The study was conducted on a sample of 60 visually impaired students studying in class II to IX. The investigator concluded that anxiety has no effect on academic status in English are not related with each other or one does not affect the other. Freeman (1989) designed a study to assess the early emotional development of blind children. The sample consisted of 92 legally blind of 15-33 years of age. The investigator concluded that many of the subjects did well despite factors believed to be adverse in the early study. For multi-handicapped visually impaired children, the outcome was likely
to be better than earlier predictions assumed. **Madsen, et.al** (1989) compared 32 sight impaired students (aged 9-20 years) on the Musical Attitude Profile (MAP) with their performance on a test devised by A.R. Walker (1981) to pair visual imagery with musical stimuli. Results indicate that subjects mean score on the (MAP) was almost identical to the composite mean for similar age matched sighted students (A.K. Walker 1985). Walker’s test yielded a lower mean. Analysis of subjects preferred vs correct responses on walker’s test revealed that subject errors were not random but evidenced a different image construct. **King, et.al** (1990) administered the revised fear survey schedule for children to 129 visually impaired and 129 normally sighted children (aged 8-16 years) in Australia. There were 160 boys and 98 girls. Results show that subjects did not significantly differ on overall level of fearfulness, although sighted subjects expressed a greater level of fear on two factors. Findings are inconsistent with those of a similar study by Ollendick et.al of US children and youth. However, the totally blind children of which there were only a small number in that sample, reported a higher level of fear than sighted children. Girls reported greater fear levels than boys. There was no significant relationship between age and self-reported fear.
Jain, et.al (1990) describe neurological, developmental and cognitive differences that exist between visually impaired, blind and sighted children. Discussion focuses on neurophysiological principles of intervention, associated handicaps in VI children, motor development in VI infants and young children and conceptual development in VI infants and children. Visual impairment affects the total process of gathering and exchanging information and the effect is noticeable not only in motor skills but also in cognition, language development and social skills. The effects of visual impairment on children's social and emotional development and blind and VI children's need for specific interventions is stressed. Sharma (1990) aimed at studying the anxiety level of visually handicapped and normal seeing children. General anxiety scale for children (GASC) by Kumar (1982) and test anxiety scale for children (TASC) by Kumar (1985) were used as the measuring instruments to test anxieties. The sample of the investigation consisted of 90 male students, out of which 50 were visually handicapped and 40 sighted children. All the subjects of the study belonged to IV to IX standard of Aligarh Distt. Wiemer, et.al (1991) examined the number, content and intensity of fears of 42 visually impaired children (aged 5-18 years).
Subjects were administered the fear survey for children with and without mental retardation. To obtain a different perception of children's fears, residential child care counselors completed the survey for the children. Although the students had many fears, there was little difference between the number of mild and severe fears. Students reported more fears of potentially physically dangerous and harmful situations than of psychologically harmful situations. Counselors reported a significantly higher number of fears than did the students.

*Abdi, et.al* (1991) undertook 45 visually handicapped boys in grade 6 (mean age 15 years), grade 7 (mean age 17 years) and grade 8 (mean age 18 years). The Indian adaptation of the Test Anxiety Scale for children was employed. Grade 7 students exhibited more test anxiety than Grade 6 and Grade 8 subjects. Significant differences were found between grade 6 and grade 8 subjects and between grade 7 and grade 8 subjects. *Sharma, S.* (1998) undertook a study of visually disabled and sighted students in relation to their frustration and study involvement. Seventy students were surveyed. The results conveyed that the difference between the two groups was found significant, thereby indicating that visually impaired were more frustrated when compared with their sighted counterparts. Secondly
visually disabled were found to be inferior so far as their study involvement was concerned.

**STUDIES RELATED TO INTELLECTUAL FACTOR OF BLIND**

**HAYES** (1941) worked in the area of intelligence testing of blind. The investigator modified the Stanford-Binet test to measure their I.Q. which was named Hayes-Binet test. The mean I.Q of visually handicapped children was found slightly below average intelligence (98.8). **Lowenfeld** (1945) found that both partially sighted and blind children were behind their sighted peers when equated on mental age. **Livingston** (1968) administered Standford-Binet test to 60 children belonging to the age 8-9 years in the classes of partially sighted. The results revealed that their average I.Q was 98.6 but they performed like normal children on reasoning, language development and abstract generalization. **Tillman and Osborne** (1969) observed that blind children were superior to sighted children on repetition of series of number indicating short-term memory and attention. **Smits and Mommers** (1976) studied on blind and sighted subjects and found significant difference on intelligence measure. **Vanderkold** (1977) demonstrated that age and level of education of visually handicapped subjects are
related to verbal intelligence test scores. Venderlock (1982) has demonstrated adventitiously blind does better on arithmetic and similarities than both the congenitally blind and the general population. Kamila (1984) conducted a study on the creative thinking abilities of blind school children. The study was conducted to find out the distribution creative thinking ability scores among blind, normal and total sample to compare the creative thinking abilities between normal and blind children and to find out the relationship between the creativity scores and scholastic achievement of blind children. The study revealed that normal children are more creative than the correlation between the scholastic achievement and creative thinking of blind children. Singh and Sharma (1984) analyzed the intelligence test score pattern of visually handicapped and found that congenitally blind differed significantly on digit span sub-test. Singh (1985) Studied on visually handicapped adult trainees, students and staff-members of NIVH Dheradun. The total number of cases in the sample group was 148. Wechsler Adult intelligence scale revised (Hindi) adaptation was used. The results revealed that that visually handicapped did not differ significantly from the sighted on the sub-test of WAIS-R verbal (Hindi). However, marked differences were evident on
digit span and arithmetic where visually handicapped were found to be better on digit span than sighted but they were on the lower side on arithmetic. Deckker, et.al (1990) constructed an intelligence test for blind and low-vision children (aged 6-15 years). Based on a short vision test, two groups of Braille educated children were distinguished, 106 subjects without usable vision and 49 subjects with usable vision. Sub-tests appeared to be highly reliable and achievement in school could be predicted with some accuracy. Factor analysis indicated 4 interpretable factors in both vision groups. The vision groups differed on tests measuring spatial ability. Barolo, et.al (1990) in a replication of G. Hinton’s (1979) experiment, 38 sighted and 38 blind folded sighted and 24 blind undergraduates were required to mentally rotate a cube. Results show the possibility of correct and holistic mental rotations and suggest that blind students subjects have mental images with autonomous topological features. The second part of the experiment was designed to verify in the same subjects rotations between holistic mental rotations and productive strategies in problem solving. Results support this relation and stress the heuristical function of mental imagery involved in cognitive processes. Dekker, et.al (1991) analyzed the scores of 155 Dutch-
speaking braille educated children (aged 6-15 years) on non-verbal sub-tests (ITVIC). Subjects were divided into two groups—subjects with no usable vision and with usable vision. Classification is based on the results of short, objective vision test. Results suggest that the battery has differential validity.

Groenveld, et. al (1992) reports on an analysis of Wechsler Intelligence Scale for Children-Revised (WISC-R) and Wechsler Preschool and primary scale of intelligence (WPPSI) profiles of 118 visually impaired 3-16 years old children without additional neurological problems. A consistent response pattern on the Wechsler batteries emerged, suggested that the verbal as well as the performance tests can provide useful assessment information.

Khan (1995) concluded that:

i. Sighted and visually impaired children differ on all the three dimensions of creativity as well as on the total productive thinking abilities.

ii. Sighted and visually impaired belonging to same income group differ from each other on the measures of originality and fluency.
iii. Sighted and visually impaired were not found significant (of low income) on fluency, originality and total creativity but were found significantly different on flexibility.

iv. No significant difference was found on fluency and flexibility but significant differences were found on originality and total creativity between sighted and visually disabled representing the large families.

v. A comparison between sighted and visually impaired representing low family dependents, did not show any significant difference on the measure of fluency, originality and flexibility but a difference was found on total creativity.

vi. Children with high income group were found more creative than from children with low income group but the difference was not highly significant.

vii. Children from large families have been found more creative as compared to children from small families.

Lister, et.al (1996) examined 25 blind (aged 6.3-17.1 years), 24 partially sighted (aged 5-13.2 years) and 32 sighted (aged 4.4-12.2 years) children in order of development as evidenced in seriation, verbal seriation and conservation tasks examining length, size and weight. To examine the question of
extent of similarity in sequence of development, scalogram analysis was implemented. Results indicate clear evidence for similarity in sequence of development. All three subject groups found seriation by weight more difficult than seriation by length and size. Findings also show that sighted, partially sighted and blind subjects found verbal seriation tasks difficult to a similar extent. Data suggests that similarity in order of concept acquisition is clear, and that similarity in order of development of understanding clearly extends beyond quantity conservation concepts.

**STUDIES RELATED TO SCHOOL ACHIEVEMENT OF BLIND**

Brown (1938) found a greater neurotic tendency in the blind. He found them superior than sighted on short sequence and forward digit recall. This can be attributed to the practice of blind in memorizing phone numbers etc. Nolan (1959) found particular difficulties in arithmetic in blind. Birch, et.al (1966) attempted to study the school achievement of 93 partially sighted children in V and VI grade. He concluded that although the children were of average intelligence but they were found two and half years retarded in academic achievement. Bateman (1967) concluded that partially seeing and blind are behind their sighted peers in academic achievement, when equated on
mental age. **Evas and Knoff** (1970) studied on 40 blind and 40 sighted children; both the subjects were compared on tactual performance difference between blind and sighted groups. The I.Q was positively correlated with T.P.T scores for the no vision group and on T.P.T. variable for those with guiding vision. The totally blind children had a higher mean I.Q than sighted or those with guiding vision. **Gottesman** (1971) used a relatively simple form-matching task in which the subjects were given a stimulative block from a set of four alternatives. There was no significant difference in performance between the visually impaired (from birth) children and the blindfolded sighted children. **Telford and Sawrey** (1977) made a detailed study and found that two groups (blind and sighted) were more or less equal when they were compared grade by grade. The investigators further concluded that comparison by either chronological or mental age indicates considerable educational relation. **Kirk and Gallaghar** (1979) remarked that achievement tests reveal only slight retardation in blind children. **Kool and Raina** (1979) carried out a study on a sample of 48 subjects comprising 20 blind and 28 sighted as experimental group and 40 blind and 40 sighted as control group. It was found that the performance of blind was poor on
textual short-term memory than the sighted subjects. It was also evident that blind subjects initially did better than the sighted but their performance was poorer than the sighted with increase in delay in recall period. Abbas (1987) conducted a study on the academic achievement of visually impaired and non-impaired in relation to anxiety on a sample of 100 students (50 blind, 50 sighted) from class III to X. It was concluded that:—

(i) Visually impaired are behind in academic achievement when compared with their sighted counterparts. The difference has been found significant even after controlling the effect of general anxiety.

(ii) When both the groups belong to low level of general anxiety, visually impaired are not retarded in academic achievement.

(iii) Visually impaired are behind in their academic achievement in mathematics even after controlling the effect of test anxiety.

Packer, J. (1989) examined the amount of time used by 2,651 blind and visually impaired examinees (BVIs) to take special administration of the scholastic aptitude test (SAI) compared with the time used by examinees with other disabilities (ODS). BVIs using cassette or Braille versions of the
SAT used considerably more time (5.4 and 6.0 hrs respectively) than both BVIs who used regular or large print versions in the test (4.3 to 4.4 hrs) and subjects with ODs (3.7 to 4.7 hrs). Standard test time for non-disabled examinees in 3 hrs. Results are discussed for an SAT criterion as a non-speeded test. Rossano, et.al (1989) Tested for the presence of alignment effects in 10 blind and visually impaired subjects (aged 20-64 years) using tactual maps. Alignment effects refers to the fact that, when points represented as further on a map do not correspond to points forward from the user in the environment, errors in directional judgements are greatly increased. Alignment effects existed in blind and visually impaired map users. Blind subjects encoded maps using the up equals forward rule and demonstrated some similarity to sighted subjects in the types of errors made. Differences between blind and sighted subjects were tentatively attributed to visual experience with subject transformations and representational variables. Nisar (1990) found congenitally blind superior in academic performance when compared with adventitiously blind. Academic achievement of both the groups was not found affected by psychological problems as well as extroversion. Knowlton, et.al (1991) analyzed performance of 37 (6-10 years)
old visually impaired and non-visually impaired children on an accommodative tasks to investigate whether impairment affects performance on typical, grade appropriate, educational tasks, itinerant vision teachers and graduate students administered 3 tasks to child: accommodation between 2 points within the near plane, between the near and mid planes and between near and far planes. Environmental variability affecting acquity was controlled. Findings demonstrate that tasks requiring accommodation within the near or between different planes require ability beyond that of acquity. Intervention strategies suggested include giving a student more time, providing material at the most efficient focal distance and converting educational materials to a more efficient form. **Pandey** (1993) conducted a study to know the reading characteristics of sighted and blind children. The purpose of the study was to ascertain the variation in the level of reading characteristics of visually handicapped and sighted children. The sample consisted of 240 students (120 blind and 120 sighted) studying in various schools. Personal data sheet and close test were used as measuring tool and two way factorial design was employed and ANOVA was used. The results did not show any significant difference. It was concluded that if blind students are provided
with good reading material and are trained, they are as good as their counterparts. Affendi (1993) conducted a study on the visually disabled school going children in relation to their frustration and school achievement and found that frustration affects their achievement.

Ayesha (1993) found that:

i. Visually disabled with high and low aggression are significantly different from each other on their school performance. The t-ratio for the difference came out 4.30, which is significant at 0.01 level of significance. This shows that the children who have high aggression achieve low. It can be concluded that aggression in visually disabled plays a very important role in educational achievement. It helps hampering the children to achieve accordingly.

ii. The mean scores of children with high and low fixated behaviour on educational achievement came out to be significant. The t-value has been found to be 2.78 significant at 0.05 level. This finding indicates that characteristics of fixated behaviour like persistence of childhood fear, feeling of being disabled, unnecessary worriedness etc. are related with educational achievement.
of visually disabled children and they affect the performance in school subjects in negative manner.

iii. The mean scores of educational achievement obtained by visually disabled children with high and low regression differed significantly as the t-value came out to be 4.19, significant at 0.01 level of confidence. So it may be concluded that characteristics like home sickness, excessively day dreams, bashfulness, lack of self-control, behaviour like a child etc. affect the educational achievement in negative manner.

iv. The t-ratio between the mean scores of children with high and low resignedated behaviour on their academic performance is significant at 0.05 level (t = 12.43). This helps to conclude that the behaviour which includes no plans, no concern with future happenings, feeling of insecurity and loneliness, no interest in work etc. helps in low achievement in school. The investigator on the whole concluded that frustration (all the four modes of behaviour) plays a very important role in educational behaviour and performance of visually disabled school going children.
STUDIES RELATED TO SOCIAL FACTORS OF THE BLIND STUDENTS

*Cuthsforth* (1933) did not find any difference in social responsibility, while studying blinds and sighted. *Marshall* (1953) found a strong negative relationship between the social competence of 5-7 years old visually impaired children and the degree of rejection of the child by mothers. *Bhalerao* (1975) made a sociological study of the educated blind in major urban centres of M.P. The sample comprised of 100 educated blind (90 males 10 females). The study showed that adjustment in the family was satisfactory, parents were not shy in owing their blind ward issues publicly and felt that one and time spent on their education was useful. A majority of blind were members of blind welfare associations or social welfare associations. They used to participate various recreational programmes and had hobbies too. *Qadri and Hussain* (1982) attempted to investigate some sociological factors of blind and normal students. Findings of the study revealed that most of the blind come from psychological broken homes and suffered from emotional maladjustment. Most of them had no interest in
curricular and co-curricular activities. They differed significantly from normal with respect to (1) attitude of parents towards subjects (2) quarrel among parents (3) linking towards homes (4) feeling towards school and other places (5) interest in the study and (6) linking for play and friends.

STUDIES RELATED TO TEACHERS OF THE BLIND

**Bradfield, Robert and Jones** (1984) studied the special education teachers diet and academic thereby. In the study the researcher assessed the diets of 41 teachers working towards special education certification in order to determine whether subjects diets contained the nutrients necessary to cope with stress. Subjects intake with an over-emphasis on refined carbohydrates, excess proteins, low-levels of necessary amino-acids, excess fat, not enough fibber and insufficient micronutriens too. It was concluded that poor diet might contribute to teacher burnout and further it may inculcate a teacher’s insensitivity to the effects of poor dietary habits on behaviour and learning. **Maxon, et.al** (1989) studied the education of deaf-blind youth in relation to teacher characteristics and programme issues, 124 teachers of deaf-blind students responded to a survey on their experience,
training programme, characteristics, communication methods and certification. Students reported communicating with students in a variety of ways. Gross signs and gestures sent and received were the most frequently communication medium. Glenn (1989) discovered that a focus on individual growth leads to consideration of how staff development may be used as a vehicle for special learning by teachers ideas from programmes for special learners particularly their emphasis on variety of educational experiences and the importance of recognition and incentives, may be adopted to staff development programmes. Mel (1990) developed a teacher education resource pack for the teachers of special need children. The project grew out of UNESCO's continuing work in encouraging member countries to develop strategies for responding to children's special needs in ordinary schools. The aim of the study was to review teachers training in context of variety of country systems. The enquiry was carried out by means of a questionnaires, one of which was completed by 100 teachers in each country, and a case study provided by each country showing current practices. Nevertheless some general trends and messages do arise from the findings of this study specifically three major priorities seem to be shared by many of the countries in the
sample. These were (1) the provision of compulsory education for all children in the population (2) the integration of the handicapped children into ordinary schools. Finally the upgrading of teachers training as a means of achieving first two priorities. Billingsley, et.al (1992) investigated into the predictors of commitment, job-satisfaction and intent to stay in teaching. A comparison was made among general and special educators. Results suggested that work related variables such as leadership, support, role conflict, role ambiguity and stress are better predictors of commitment, job satisfaction and were significant predictors of intent to stay in teaching. Sutton, et.al (1992) found out the effects of beginning learning disabilities (L.D) teacher. Findings indicated that elementary (L.D.) teachers demonstrated more transitions between instructional activities than their secondary counter parts. In comparison with resource teachers subjects in self-contained class-rooms emitted significantly higher frequencies of three behaviours. The purpose of career devoted was to establish to focus energies clearly on the attainment of those goals. Domanski (1997) found that a disability specific preparatory course can be pivotal in improving the attitude of pre-service teachers about serving the disabled students. Results also indicated small but significant
changes in the attitude of pre-service teachers about serving students with disabilities. The pre-service teachers perception about their ability and knowledge to teach disabled students improved significantly during the training period.

**STUDIES RELATED TO MAINSTREAMING OF BLIND STUDENTS**

**Pearlman and Gillman** (1979) investigated into mainstreaming visually handicapped. Observations of a mainstreaming programme led to the conclusion that extensive preparation is vital to success. The author's more important finding is that pupils and teachers, although well intentioned, become anxious and demonstrated avoidance of handicapped students. It is certainly a matter of great concern. **Mollie Hobben** (1980) looked into the purpose of educating handicapped students in the mainstream and observed that the intention should be to make them an integral part of this environment rather than to be simply present in the regular classes. Realising that integration is the result of mainstreaming, particularly with reference to students interaction, it was suggested that interaction with other students must be encouraged. **Blacher-Dixon** (1982) examined the perspectives of mainstreaming at the early childhood level.
in the following three areas of research, effects of pre-school mainstreaming on more severely handicapped children, parental involvement activities and the impact of mainstreaming on the public school system. Nair (1983) studied five general schools having at least one disabled child and found that orthopedic handicap did not cause academic problems in the class and teachers and peers had positive attitudes towards them. Zigler and Muenchow (1985) looked into mainstreaming and suggested a careful monitoring so as to understand which handicapped child will benefit from the programme and recommend adequate teacher training arrangements accordingly. Doughlas P. Biklen (1985) refers to the question of quality education under mainstreaming and attempts to remove the myth of the super teacher. He concluded that success of integration depends upon such factors as proper planning, policies and evaluation procedures, etc. Weiner (1985) compared the academic performance of the integrated and segregated groups of students with mild disabilities. The results indicated that the mean academic performance of the integrated students group was in 80th percentile, while the segregated students group was in 50th percentile. The results show a better academic performance by
disabled children in inclusive environment. Bishop (1985) identified the major factors related to success for visually handicapped pupils in regular classroom and to determine the variables which affect that success. 304 relevant persons in eight states: California, Colorado, Connecticut, Florida, Minnesota, Pennsylvania, Texas and Washington were selected to serve the purpose. The study identified seventy factors associated with successful mainstreaming for visually handicapped pupils. Among the most highly valued components were— an accepting/flexible classroom teacher, peer acceptance and interaction, available support personnel of spatial supplies/equipment, communication between school principal and family. Desirable characteristics of visually handicapped pupils included inner drive, independence, social skills, adequate basic and special skills and academic achievement. Sharma (1988) concluded in one paper on mainstreaming the visually handicapped that since the aims, content and subject matter involved in the education of visually handicapped. They need a good general education which is in keeping with special requirements. The education of visually handicapped like all special education required special training of teachers, special facilities and equipments and some curricular modifications
placing these special children in special type of setting may be advantageous in the sense that they can learn and fulfill their special and basic educational needs. The visually disabled need to be taught by Braille, reading and writing, using audio-aids constructing and using models and relief maps, graphs and geometric designs which need to be fulfilled at the very early stage. Emphasis should be laid on placing visually handicapped in integrated education setting. Stephens (1988) in an intervention study to improve vocabulary and social skills through interaction for six months reported that children improved performance on tests of intelligence, viscometer tests, arithmetic, reading and writing and socialization. Alan (1994) compared the attitude of general education teachers and special education teachers regarding the education of trainable mentally impaired students in general education system. Results indicated a strong agreement that children with disabilities would be benefited from integrated educational experience, though it was felt that these special students could not be taught in the same manner as their non-disabled peers. Geossling (1994) investigated the self-reported experiences of integration facilitators working in general education classrooms. These teachers referred to stay back in integrated
educational system rather than segregated instructional setting. Kelly (1994) studied the attitude of regular and special educators towards the integration of mildly and severely disabled students into general education classes. The results reveal that general teachers had moderately supportive attitude towards integration. The special teachers gave a much higher ratings to the potential of integration for mildly disabled pupils than the general teachers. A moderate degree of relationship was deduced between level of experience with severely disabled students and rating supporting their integration. Quaree (1994) conducted a study regarding the perceptions of special education teachers towards integrated educational settings for severely handicapped students. It was found that teachers strongly supported integrated education setting for severely handicapped students from academic, social, psychological and moral perspectives. Teachers felt that integrated educational settings have more advantages than disadvantages for such students. Kahle (1995) indicated in one study a significant difference in the perception of teachers towards the integration of mildly and severely students. The continuum of special education services, inclusion classrooms, resource room and special education, self-contained class-rooms were needed to
meet the needs of disabled students. Down (1995) found that teachers are willing to serve students with disabilities and they believed students with disabilities should be included in regular educational environment. Tungaraza (1995) conducted a study regarding attitude of teachers towards integration. Analysis of variance reveals that there were no significant differences in attitudes to associate with special, general and head teachers related to age, gender and years of experience. In general, teachers from all these groups agreed with the principle of integration, but did not think it was appropriate to integrate children whose disabilities interfered with academic learning. Stubber (1995) suggested that educators attitude can significantly influence the school experience of children with disabilities. It was also suggested that more positive attitude towards integration might be encouraged by collaboration among regular and special educators and by providing practical support for classroom teachers. Olson (1995) indicated that special educators and general teachers are more compatible in collaborative relationship as their years of experience in teaching, in an integrated setting increase and these teachers show a degree of success in making integrated setting operable.
Punani (1997) compared the effectiveness of various modes of education of visually impaired children. Integrated education was found much more effective than residential education (institutional teaching). Integrated educational settings emerged most effective in attracting children from farming communities, from labourers and families engaged in craft. The study deduced that integrated education is a phenomenon, which is not limited to urban areas only. Follansbee, et.al (1997) examined the general education student achievement outcomes and compared in both and non-integrated secondary classrooms. General education high school students were randomly assigned to either inclusive or non-inclusive classrooms. Teacher variable was controlled by assigning the same subject to teach same subject to both the classes. Pre and post achievement scores from a subject specific examination were analysed using analysis of covariance (ANCOVA). Additional data was collected on parental and students satisfaction in two models of instruction through a survey. The results suggested no significant difference between integrated and non-integrated classrooms in general. However, in final examination grades, a significant difference was found in favour of integrated classroom, in which students from integrated
classroom outperformed students from non-inclusive classrooms in at least one out of nine courses. The study further revealed that there was no significant difference in overall satisfaction between two groups of students and two groups of parents. The study came out in favour of inclusive environment even for non-disabled students.