CHAPTER II
REVIEW OF LITERATURE

Reading is a process of recognizing and understanding words and ideas. It is an act of interpreting, by the reader, what was written by the author. It is generally recognized to be the most important subject taught in the elementary school. Research has forged ahead, teachers are better trained, reading materials have become abundant and techniques have improved. As a result of all this, pupils on the whole, tend to be better readers than in the past. Nevertheless, a surprising number of pupils fail to make the progress in reading that is to be expected from their capacities. Disabled readers turn up at all school levels, from the latter part of grade one into the university.

Deficiency in reading can be termed as (1) Dyslexia and (2) Reading disability/difficulty. A ‘Dyslexic’ has a low intellectual capacity and shows some neuropathological factors for his reading deficiency. However, the disabled reader is a child of intellectual capability who has for a variety of reasons failed to grow in reading. He is not living up to his potential as a learner, at least in reading. He is quite likely to be ineffective in all that is expected of him in school. He may reject reading, become a discouraged person, acquire unfortunate adjustment patterns and become increasingly less able to learn. He is a child in need of educational help. [Ekwall and Shanker, 1976].
Njioikijien (1994) describes dyslexia in terms of manifestations of reading disabilities, each of which is related to its own complex of neuropsychological symptoms that may indicate the specific location involved. Causes of dyslexia include morphological developmental anomalies, prenatal hormonal and autoimmune factors, genetic and chromosomal defects and perinatal brain damage. Thus dyslexia is differentiated from reading disability or difficulty which has no pathophysiological factors, and does not show the typology and neural substrate of dyslexia.

Badian (1996) studied the concept of dyslexia as a reading disorder distinguishable from nonspecific, or garden variety poor reading. The results provided no support for the concept of dyslexia at age 6-7 years. Among older subjects there was support for the concept of dyslexia as a phonological deficit and for non discrepant garden variety poor reading as developmental lag. More discrepant subjects with dyslexia exhibited orthographic and serial-naming, speed deficits, as well as phonological deficits while the less discrepant subjects were more similar to garden variety poor readers than to the more discrepant subjects with dyslexia.

There are multiple causes for reading disability including physical, intellectual, emotional and cultural components. The major contributory factors that influence the course of any learning however are the psychological causes.
Reading and cognitive factors:

A number of studies have been conducted to determine the relationship of various psychological factors to reading disability. Among the psychological factors often studied are the various emotional problems and cognitive factors. Intelligence is one of the foremost determinants of reading achievement but intelligence test scores are not yet firm predictors of reading achievement.

Harris (1972) has pointed out that the relation between intelligence and reading is low to moderate at the beginning level but increases as children get older. As the nature of reading task becomes more of comprehension and interpretation, intelligence becomes a stronger determining factor.

George and Spache (1977) showed that intelligence test results were not highly predictive of early reading success in school beginners. The degree of reading success for most pupils is determined not by their exact level or rank in intelligence but only by other more influential factors like emotional, educational and environmental factors.

Majoribanks (1988) used an interaction frame work to examine relationships between reading performance, intellectual ability and school related attitudes for 11 year old children from different environmental backgrounds. Results showed that reading performance had moderate associations with intellectual ability, family social status and family reading environment and negligible to modest relations to school attitudes.
Oakland, DeMesquita and Buckley (1988) proposed that mental age and four language variables (i.e., grammatical closure, expressive vocabulary, receptive vocabulary and auditory blending) accounted for more variance associated with reading recognition and comprehension than did the cognitive style of field dependence - independence.

Labuda and Defries (1992) studied differential prognosis of reading disabled children as a function of gender, socio-economic status, IQ and severity. Significant main effects due to general intelligence and severity were found in reading performance. The interaction between initial severity and test occasion was significant for reading performance, due to a greater rate of improvement for the more severely disabled.

Carver (1990) investigated the degree to which intelligence as measured by the progressive matrices was related to the ability to read in each of graders 2 to 12 of a small town rural school. The data indicated that general intelligence as measured by the progressive matrices had a strong and consistent relationship to reading ability.

Roy and Veeraraghavan (1990) found that reading ability was a function of home background and personal attributes such as intelligence, interest in reading, reading habits and personality traits. Reading ability also correlated positively with academic performance, indicating that the better the reading ability, the higher was the academic performance.
Stanovich (1993) studied the definition of reading disability and dyslexia, which involves the assessment of a discrepancy between reading ability and measured intelligence. These discrepancy definitions assume that difficulties in dyslexic readers stem from different problems than those characterizing poor readers without IQ discrepancy. Highlighted are (1) empirical evidence on the cognitive differentiability of dyslexic children, (2) classification procedure and (3) problems with the use of IQ tests as aptitude benchmarks in the measurement of discrepancy.

Esser and Schmidt (1994) analyzed the relationship between reading and spelling disorders and pre and perinatal risks, psychosocial factors, frequency and type of mental disorders, development of non-verbal intelligence (NVI) and specific reading and spelling disorder among 399 children aged 8-18 years, who participated in a longitudinal study. Thirty seven subjects with specific reading retardation (SRR) were compared with 62 subjects with other specific developmental disorders, 285 subjects with normal intelligence and 15 subjects with below average intelligence. No correlation was found between SRR and pre and perinatal complications. Subject with SRR suffered from environment related stress factors in early childhood and adverse familiar conditions by age 8 years; NVI of subjects with SRR remained constant between ages 8 and 13 years and their spelling performance developed parallel to normal subjects.

Beloin (1995) tried to understand the literacy experience of 3 children with intellectual disabilities, when they stay with their general education classmates and participate in wholistic literacy activities such as interactive read alouds. The result
showed that the interactive literacy activity did not improve their literacy experience, thus proving intellectual ability as one of the psychological factors in such activity.

Korhonen (1995) studied nine children with reading disabilities and specific difficulties in rapid serial naming and a control group of 10 normally learning children who were followed from age 8 years to 18 years. Tests of rapid serial naming, reading and spelling, general intelligence, articulation speed and word fluency were administered to the subjects. Results showed that difficulties in both rapid naming and reading and spelling persisted into early adulthood in the subgroup.

Farrag et al (1995) studied the clinical characteristics of a population of dyslexic children. Results showed that subjects with developmental dyslexia had higher performance IQ than verbal IQ and performance IQ of subjects with developmental dyslexia was higher than that of normal readers. Subjects with developmental dyslexia and reading retardation had similar arithmetic achievement scores which were lower than those of control subjects. In linguistic achievement tests spontaneous writing and oral spelling scores differentiated subjects with developmental dyslexia from subjects with reading retardation who had no neuropathological factors for their disability.

Wadsworth et al (1995) analyzed genetic and environmental causes of phenotypic association between reading performance (RP) and verbal short term memory (VSTM). Results showed that genetic factors accounted for up to 80% of
the phenotypic correlation between RP and VSTM in normal and disabled subjects. Reading ability is instrumental in VSTM development in normal subjects and reading deficits may contribute to deficits in performance of VSTM tasks. The relation between and VSTM may be mediated by verbal IQ, but a significant causal effect of reading on VSTM remains, independent of the effect of verbal IQ.

Francis, Shaywitz and Stuebing (1996) studied development lag versus deficit models of reading disability using longitudinal growth curves analysis. Development changes in reading ability were modeled by using 9 yearly longitudinal assessments of a sample of 403 children classified into 3 groups representing (a) Deficient reading achievement relative to IQ expectations. (RD-D). (b) Deficient reading achievement consistent with IQ expectation (LA) and (c) No reading deficiency (NRI). Results suggested that the developmental course of reading skills in children with reading disability is best characterized by deficit as opposed to lag models. In addition, no support for the validity of classifications of reading disability based on IQ discrepancies was apparent.

Based on these reviews, it was therefore hypothesized that reading ability and general intelligence are positively related.

Other cognitive factors:

Das (1993) studied the differences in cognitive processes of children with reading disabilities and normal readers. Performance of groups of young readers who differed in reading levels were examined on 2 selective attention tasks: Posner's physical and name match tasks and the Stroop test. The groups were
grades 3 and 5 average readers, and grade 5 children with reading disabilities whose reading level was at grade 3. Results showed that, while the children with reading disabilities did as well as average readers in grade 5 in physical matching, they were significantly behind in name matching, performing at a level equivalent to that of grade 3. In Stroop color naming, their performance was at grade level, but again they were only as good as grade 3 in color word naming.

Elbert (1993) investigated the occurrence and severity of reading, spelling and written language impairment in 115 children aged 6-12 years with attention deficit hyperactivity disorder. Specific questions studied were whether Attention Deficit disorder (ADD) subgroups with and without hyperactivity differ in reading, spelling and written language achievement; whether age and gender interact with ADD subgroup class to affect reading and written language achievement and whether prevalence of impaired reading and written language in these subgroups is consistent with previous reports in heterogeneous samples. The ADD with hyperactivity subgroup showed significantly poorer word attack skills while the subgroups did not significantly differ from each other on reading/ written language measures.

Cohan (1994) studied the differential diagnosis of reading, attention and depressive problems in childhood. He suggested that a primary problem in one area may result in problems in another; one disorder may look like another, and/or a child may simultaneously present two or all three disorders.
Royer and Sinatra (1994) reviewed current reading diagnostic practices, presented a cognitive developmental theory, and indicated how the theory can be used to identified four criteria for a reading diagnostic system based on cognitive developmental theory. (1) The system must provide reliable and valid assessments. (2) Performance on the diagnostic system must be consistent with cognitive developmental theory. (3) The diagnostic procedure must provide specific information about the nature of the students’ reading difficulty and (4) diagnosis provided by the procedure must lead to prescriptive procedures that alleviate reading problems the student is experiencing.

Stanovich and Siegel, [1994] indicated that cognitive differences between poor readers with aptitude discrepancy and without discrepancy all reside outside of the word recognition module. The results support the phonological core variable difference model of reading disability and demonstrate that a degree of aptitude discrepancy is unrelated to the unique cognitive tradeoffs that are characteristic of the word recognition performance of children with reading disabilities.

Bravo (1995) conducted a follow-up study of reading difficulties (RDs) among 93 Spanish speaking Latin American children of low SES and a control group of 63 children without reading difficulties over 4 school years. All subjects were tested on reading, decoding and comprehension, reading and writing pseudo-words, verbal abilities, visual perception and phonological processing. Neither SES nor IQ accounted significantly for the reading difficulties in the RD group. The most predictive variable of the final reading level in the RD group were phonological
processing, verbal abilities and the initial level of decoding. After 4 years, 17% of the initial RD subjects had reached an average level of reading, but 11% of this group remained with severe reading difficulties and could be considered dyslexic. The RD subjects who became average readers were significantly different from the controls in terms of IQ scores.

Felton and Brown (1990) studied phonological processes as predictors of specific reading skills in children at risk for reading failure. The results revealed that with IQ controlled, there were no inter correlations among measures of phonological awareness, phonetic recoding in working memory and in lexical access.

Bentin, Hammer and Cahan (1991) found a strong mutual relation between reading acquisition and phonological awareness.

Carlisle (1993) hypothesized that reading disabled students can have problems with reading comprehension for a variety of reasons. Different approaches to vocabulary instruction may be more or less suitable depending largely on the verbal ability of reading disabled student.

Siegel (1993) studied phonological processing, word recognition, spelling and reading comprehension of both reading disabled and normal achievers. Results showed that pseudoword reading skill was the most significant correlate of word recognition and reading comprehension scores. IQ contributed little independent variance. Phonological processing deficits appeared to be the fundamental problem of reading disabled subjects.
Fletcher et al (1994) studied the validity of distinguishing children with reading disabilities according to discrepancy and low achievement definitions. Results did not support the validity of discrepancy versus low achievement definitions. Although differences between subjects with impaired reading and subjects without impaired reading were large, difference between subjects with impaired reading who met IQ based discrepancy definitions and those who met low reading achievement definitions were small or not significant. Measures of phonological awareness were robust indicators of differences between subjects with impaired reading and subjects without impaired reading regardless of how reading disability was defined.

Eden et al (1995) showed that a high proportion of the variance (68%) in reading ability of both the non-disabled children and those with reading disability could be predicted by combining visual and phonological scores in a multiple regression.

Felton and Pepper [1995] found that children at risk for reading failure could be identified early in their school career. Measures of phonological skills were useful components of prediction batteries but other factors also had to be considered.

Hynd et al (1995) showed that there was no significant difference in subjects with reading disability and comorbid psychopathology and subjects with reading disability only. As compared with subjects with attention deficit hyperactivity disorder, subjects with reading disability had relatively more deficits in
phonological coding, expressive language and vocabulary. It is suggested that subjects with reading disability showed deficits in the neurolinguistic abilities especially in the area of phonological processes.

Parkinson and Gorrie [1995] found that phonological awareness could be trained in children with specific language and literacy difficulties. Improvements in phonological awareness seemed to generalize to reading and spelling. Subjects who had been ‘stuck’ at the logographic stage for a number of years began to develop alphabetic strategies in reading and spelling.

Light et.al (1995) suggested that genetic factors substantially contributed to the observed comorbidity of hyperactivity and spelling deficit. Approximately 45% of the deficit in reading was due to genetic factors that also influenced hyperactivity. Heritable variation accounted for 70% of the observed covariance between the reading and hyperactivity measures. It was concluded that heritable influences partly explain the comorbidity of reading disability and attention deficit hyperactivity disorder.

Narhi and Ahonen (1995) showed that executive tasks failed to differentiate the clinical group from each other showing that attention deficit hyperactivity disorder subjects were not particularly poor on measures of executive functions. Performance of the comorbid group on rapid naming was impaired to the same degree as that of the purely reading disabled group. It was concluded that the problem in reading acquisition of the comorbid group was due to factors that were
also found in the purely reading disabled group and were not explainable by attentional deficits.

Scharchar et al. (1995) studied the basis of the comorbidity of two common psychiatric disorders of childhood, viz., attention deficit hyperactivity disorder (ADHD) and conduct disorder (CD) in 45 boys with either ADHD, CD, or ADHD+CD and 16 normal control children (NC), using a 2(ADHD versus No ADHD) x 2(CD Vs No CD) design. The ADHD group was significantly impaired on cognitive measures (inhibitory control and response alteration) and had greater delay in development and greater problems compared with CD and NC children. The CD group was exposed to significantly greater environmental adversity and had more severe problems in arithmetic than the ADHD and NC groups. The ADHD+CD group was similar to the ADHD group on cognitive, developmental and reading measures and similar to the CD group on psychosocial and arithmetic measures.

Based on these reviews, it was hypothesized that reading ability and other cognitive factors such as phonological processes are positively related.

Reading And Sensory Acuity:

Bond, Tinker and Wasson (1979) in their study found that there were more cases of impaired auditory acuity among groups of disabled readers than among groups of average or good readers. It was also reported that hearing losses in the high frequency ranges were more likely to result in reading impairment than hearing
losses in the middle or low frequency ranges. It also appeared that boys tended to experience more loss in the high ranges than the girls.

Lovegrove (1991) argued that it was likely that there is a causal link between visual processing deficits and specific learning disabilities.

Catts (1993) showed that children with speech language impairments performed less well on reading tests than did non-impaired subjects. Performance of subjects with speech language impairments on standardized measures of language ability in kindergarten was clearly related to reading outcome, especially reading comprehension.

Watson (1993) used a structural equation approach to analyze relationships among auditory perception phonological processing, and reading. In the mathematical model that proved to be the best fit to the data, speech perception was strongly related to three of four phonological variables including short and long term auditory memory and phoneme segmentation. These phonological variables in turn were strongly related to reading. Non-verbal temporal processing was not significantly related to any of the phonological variables in the structural equations. It was concluded that speech perception, syllable sequence discrimination and degraded speech tasks may contribute significantly to individual differences in the phonological abilities necessary for skilled readers.

Taub, Fine and Cherry (1994) suggest that a selective auditory attention task may be useful in identifying pre-reading children who are at risk for learning disabilities.
Mauer and Kamhi (1996) studied the impact of visual and phonetic factors on learning of phoneme-grapheme correspondence in children with reading disabilities. Normal achieving children matched for mental age and children matched for reading age, learned the correspondence pairs in significantly fewer trials than the reading disabled subjects. The reading disabled subjects had the least difficulty learning the correspondence pair with similar phonemes and graphemes. Learning performance was correlated with visual processing performance and phonological processing.

Eden (1996) found that tests of phonemic awareness could be used reliably and robustly to show deficits in children with reading disorders, stating that visual tasks were more closely associated with reading.

Cherkes and Julkowski (1996) on the basis of their studies, stated that any effort to support or remediate visual weakness as a route to reading would be misguided. The use of visual tests for diagnosing or predicting reading disability would be a poor substitute for looking at causes related to phonological deficits.

Based on these above reviews, it was hypothesized that reading ability and sensory acuity are positively related.

Reading And Emotional Factors:

Prior et al (1995) assessed the prevalence of reading problems at the grade 2 level in 1,605 subjects from an original cohort of 2,443. On the basis of the scores on the ACER primary reading survey - Level B, 16% of the subjects were designated as reading disabled. The usual preponderance of boys with reading
problems was not found. There was a strong association between reading problems and behavioural maladjustment, as rated by parents and teachers, particularly amongst boys. Follow-up assessments of the reading disabled children two years later showed that few children ‘recovered’ to a normal level of reading. Analyses of the reading and spelling errors made by these children confirmed that deficient phonological skills were particularly characteristic of reading disabled children.

Smart, Sanson and Prior (1996) assessed the temporal and causal connections between children’s reading disabilities and their behaviour problems. Results showed that reading disability (RD) remained stable over time, but there was greater variability in behaviour problems (BPR). RD did not appear to lead to the development of BPR. However, subjects who had both BPRs and RDs had the worst outcome at follow-up, suggesting that BPRs may exacerbate reading delay and that pathways to RD may be gender specific.

Based on the above review it was hypothesized that reading ability and emotional factors are positively related.

Reading And Cultural Factors:

While it should be stressed that seldom is any child’s reading disability a result of any single factor, it is well known that the setting in which children live has an importance influence on their learning. There are home environments which stimulate children’s intellectual curiosity and promote their general knowledge of people and the world around the
Ethnic background and it’s social ramifications are also important influences on reading achievement. Ethnic background is in many cases related to economical level. Many studies have shown that the overall reading level of children from poor communities regardless of ethnicity is often far below that of children from more affluent communities.

Nila Banton Smith (1974) has suggested that three of the characteristics of disadvantaged readers that are basic contributing factors to reading difficulties are impoverished environment, low self concept and poor health.

Panton (1985) indicated that although economic and social class is important, its influence is molded by features of the neighborhood in which the children live.

Kumar (1993) found that low income meant that parents had less money to spend on books, educational toys, extracurricular activities or outings to museums, art galleries, or theatre or a concert, whether organized by the school or at home, opportunities which facilitate literacy development. He also pointed out that low income and long hours spent in semi-skilled jobs, reduced parental motivation to take an active interest in their educational development and time available to spend with children.

Mantzicopoulos and Morrison (1994) examined the ways that cognitive variables, teacher’s predictions of learning difficulty, behaviour ratings and socio-economic status assist in accurate identification of children at risk for poor reading ability. Results suggested that both cognitive and behavioural variables clearly
differentiated between subjects at risk or not at risk for poor reading achievement. However teacher’s assessments of subject’s skills and future achievements were the most accurate indicators of performance.

Cherian and Thomas (1995) investigated the reading habits and academic achievement of rural and urban black pupils in a developing country. Analysis gave a Pearson product-moment correlation coefficient of 0.3 between reading habits and academic achievement. Findings indicated that more than 50% of subjects never or sometimes read a newspaper, magazine or textbook other than school texts. A significant correlation between reading habits and aggregated academic achievement in the best 6 school subjects was found for boys of intact families, no such relationship was noted for girls of intact or parent deceased families.

Light et al. (1995) found that genetic and shared environmental, family and cultural influences appeared to contribute almost equally to the observed covariance between reading and math scores.

Reading And Sex Differences:

Flynn and Rahbar (1994) tested the hypothesis that proportionately more boys than girls experience reading failure in a sample of 708 children, using both test-identified (TTI) and teacher identified (TCI) criteria. TTI reading failure was defined by low scores on standardized reading achievements tests given at the end of grades 1 and 3. For severely reading disabled, the ratio of boys to girls is 1.4 : 1 at grade 1 and 1.3 : 1 at grade 3. TCI ratios of boys and girls with learning disability was 2 : 1 at both grades, exceeding the TTI ratios.
Based on these reviews it was hypothesized that reading ability would be positively related to SES, family factors, environmental factors and sex of subject.

However as Abrams (1970) states there is no one single etiology for all learning disabilities. Rather, learning problems can be caused by any number of a multiplicity of factors all of which may be highly inter-related.

In The Indian Setting:

In view of some broad similarities in the writing system in various Indian languages, it is necessary to understand how children respond to the orthographic features in the Indian languages in their attempt to read. Such understanding is essential in dealing with specific reading problems in the classroom instructional process in India.

Despite the clear need for reliable studies and research in the Indian setting, and in India’s regional languages, most of the studies have been conducted on the English language.

Reading research in India is yet to develop a theoretical framework within which the finding can be understood, evaluated and applied. In the absence of an applied orientation and analysis of the current practices in reading instruction, there has been little effort to utilize the available knowledge in reading development and text processing in planning remedial programmes for reading difficulty and dyslexia.

Agarwal and Krishna (1981) and Sengupta and Veeraraghavan (1988) have shown a close relationship between reading proficiency and academic achievement.
Prakash (1987) has suggested that phonological segmentation skills do not develop in Oriya, children as in the case of children learning to read in English. Moreover, in the case of children learning to read Oriya, reading proficiency may develop even with a poor level of phonological segmentation skill.

Sahu and Pattnaik [1987] showed that reading of primary grade Oriya children was not meaning based. Fluent reading without comprehension could be attributed to the semi-syllabic nature of Indian orthography.

Sengupta and Veeraraghavan [1988] have shown reading ability is related to intelligence, home background, interest in reading, reading habit and personality traits.

Purushotama [1988] found that good and poor readers differed in the number of letters misread although the nature of errors were similar for both the groups. Reading confusion was more of sounds which occur less frequently in spoken Kannada. He also showed that the poor reading group had sequencing and orientation difficulties like reversals in reading.

Purushotama [1990] found that in grade III readers, 74% of the poor readers and 26% of the good readers had a high rate of misreading of vowels, and this was attributed to the complex and weak representation of vowels in Kannada script.

Recently a series of cross linguistic projects under the IDRC network at the Department of Human Development and Family Studies, M.S. University, Baroda has looked extensively at script specific and criterion referenced reading problems of early readers in the primary grade upto grade IV Under this project detailed
information on specific reading and writing problems have been collected and analyzed quantitatively and qualitatively in a number of Indian languages including Punjabi (Bahia, 1993; Kang, 1992) Marathi (Koshy 1992) Gujarati (Vikal, 1992) Hindi (Wadhwa, 1993) and Assamese (Phukan and Baruah, 1993).

Apart from a number of significant language specific observations, these revealed some common developmental features quite relevant for understanding the process of reading development in the Indian educational context. These studies have shown that some reading errors tend to persist through the higher grade and certain errors in word and passage level reading are primarily due to visual and auditory similarity between the orthographic symbols. Reading performance was found to be poor in auditory-visual association. These findings have immediate practical implications for teaching of reading in the primary grades.

Prakash [1990] has suggested that the western models of literacy acquisition may not be applicable in the Indian orthographic context. He proposes that Indian children may be going through the following stages in reading:

1. Inability to read [i.e., lack of letter identification]
2. Reading basic letters without the ability to decode appropriate vowel part of the letter [e.g. reading 'ka' for 'ki'].
3. Letter by letter decoding.
4. Proficient reading.

According to Prakash [1990] letter identification may be the crucial factor in learning to read Indian scripts.
Mohanty and Rout [1992] found that oral reading and reading comprehension proficiency of grade IV Oriya readers were related to simultaneous processing and reading awareness but not to successive and planning processes.

Prakash et al [1993] in their study showed that phoneme awareness may not be a critical factor in development of non-alphabetic literacy. The second study on adult Hindi readers and illiterates showed poor performance in phoneme deletion tasks along with good performance in rhyme recognition and syllable deletion tasks.

To conclude, the above review reveals that, compared to English language, the Indian languages present a different scenario. Grapheme-Phoneme correlation is high and children can be fluent readers without comprehending what is being read. However, there is a dearth of studies in India’s regional languages, and this research attempts to fill part of the lacuna.

Reading And Remedial Measures:

Regardless of the thoroughness of the diagnostic process of the reading disabled, one is likely to see few positive results unless it is followed by a remedial program based on the results of the original diagnosis. Hence reading diagnosis and remediation can seldom be separated for practical purposes.

Reading shows improvement with practice; with good motivation and sufficiently individualized instruction based upon careful diagnosis.

Several studies have been carried out to determine the importance of intervention programmes on reading.
Navin and Bates (1987) evaluated the effects of a parent’s group counseling programme on the reading attitudes and achievement of remedial readers. Analysis of pre and post test scores indicated that the experimental group scored higher than the control group on both reading attitudes and comprehension. Results suggested that increase in the quantity and quality of parent-child interactions may have contributed to the improvements in reading.

Reason [1986] described the project design for a case study evaluation of the use of INSET manual for students with difficulties in basic literacy. The manual design assumes that the reader uses information from several sources simultaneously. Compensation by one source, for deficiencies on the part of another source, is emphasized. A variety of remedial strategies ranging from task analysis to a form of assisted reading is used and masterly learning and parent participation are emphasized.

Edward and Panofsky [1989] examined whether short term intervention for introducing book reading would promote understanding of book reading as the school preferred approach to literacy. Subjects were 14 ‘head-start’ mothers of lower socio-economic status and their 4 years olds. Training consisted of three one hour sessions in which subjects participated in either (1) ‘important training’ that involved discussions of the importance of literacy and reading to children or (2) Modeling (MDC) training that presented book reading strategies. Mothers in the MDC condition increased their level of initiative in the use of questions and comments and the primary function of these changes. Children’s participation was
generally low but children's responding in the MDC condition was more than the other condition.

Espin and Deno [1989] compared the effects of promoting and modeling feedback strategies on sight word reading performance. The percentage of learned words retained at both follow up sessions was greater for modelled than prompted words. Individual variations in learning patterns was evident and may be related to rate of retention.

Kurzweil [1992] studied developmental reading disorder, as predictor of outcome in adolescents who received early diagnosis and treatment. Children who were diagnosed and began reading therapy at age 7 years were followed up at age 14. It was found that 40% of the subjects were reading appropriately at follow up. Improvement and recovery were significantly related to parent's educational status and to IQ and not to gender of subject or to speech articulation or hyperactivity problem. For persons who receive early diagnosis and treatment of developmental reading disorder, IQ may be good predictor of recovery potential; and remedial programme for the low IQ dyslexic child may be optimal if cognitive therapy is included in addition to reading therapy.

Marx (1992) argues for and against early identification and prediction of reading and writing difficulties. Based on long term prognosis, early intervention and prevalence rates, findings supporting the need for early identification were presented and problems and limitations of early identifications were stressed and
strategies for eliminating or minimizing the sources of error in the early identification were also noted.

Smith (1993) discussed three topics that should be considered as part of any school policy addressing problems with reading and language development. The topics were:

(1) The debates about standards of teaching reading and how they might be improved.

(2) The introduction and promotion of reading recovery program, and

(3) The continuing controversy about the concept of dyslexia.

In responding to these three topics, he recommended that schools should address a number of questions as part of the process of school development with particular regard to four elements

(1) Curriculum development plan.

(2) Schemes of work.

(3) Learning environment.

and (4) Pupil’s individual needs.

Hurford et.al (1994) assessed 486 first quarter I graders on their reading and phonological-processing skills and intelligence. Subjects were identified as those with reading difficulties, reading disabled and ‘Garden-Variety poor readers. Half of the reading disabled and garden-variety groups received the phonological processing intervention. The training procedure not only was effective in increasing the phonological processing skills of the trained subjects but also increased their
reading ability. Both the groups who received training benefited from the training. Thus indicating that it is possible to identify children at risk for reading difficulties and to significantly improve their phonological-processing and reading abilities.

McCormick [1994] presented the case study of a non-reader, an elementary school boy with above average intelligence, who recognized only 4 words at the beginning of his 3.5 year. The subject's reading history was traced before intervention, during intervention that fostered initial literacy acquisition and through follow-up periods in which further literacy learning was acquired. After specially planned multiple exposure/multiple context instruction, the subject could read 7th grade material with accurate word recognition and excellent comprehension.

Das, Mishra and Pool [1995] studied the planning, attention, simultaneous and successive processing remedial program (PREP) to improve reading skills. Results showed that subjects who received the full PREP program significantly improved in word decoding, speech rate and planned connections. Subjects receiving only one component of the PREP program showed no or only slight improvement in different areas of word decoding. Control subjects did not improve their word decoding performance.

In McCarthy, Newby and Recht's [1995] study 38, I graders with low emergent reading skills and at risk for difficulty in learning to read were tutored in an early intervention programmes in addition to regular classroom instruction. Tutoring focused on word recognition, phonetic application and comprehension in context. They found that in the EIP subjects, word recognition in isolation and in
context, reading speed and comprehension were superior to those of matched controls at completion of tutoring, at the end of 1st grade and at 3rd grade. A follow up at grade 3 showed that 34 of EIP subjects were equivalent to a group of average - reading classmates in word recognition in context, acceptable accuracy and reading comprehension but not in word recognition, and reading speed.

Crammer (1996) described strategies implemented in a remedial reading research clinic to improve the subject’s self esteem and reading abilities. The focus was on principles and instructional strategies. The programme included the following steps

(1) Go back to where the student was.

(2) Build sight vocabulary and speed up recognition.

(3) Teach self-help sounding words/alphabets, and

(4) Develop comprehension.

Based on these reviews it was hypothesized that a remedial programme would be a positive effect on reading ability.

To conclude, the above review helped in planning the research to study the psycho-social correlates of reading ability for malayalam and in designing a remedial intervention programme.