

**PREVALENCE OF LEARNING DIFFICULTIES /  
DISABILITY AMONG PRIMARY SCHOOL CHILDREN :  
EFFECT ON EMOTIONAL PROBLEMS AND  
ACADEMIC ACHIEVEMENT**

Thesis submitted to the  
University of Agricultural Sciences, Dharwad  
in partial fulfilment of the requirement for the

**Degree of**

**MASTER OF HOME SCIENCE**

**IN**

**HUMAN DEVELOPMENT**

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**AUGUST, 2006**

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# I. INTRODUCTION

In the modern society mastery of basic academic skills-reading, writing and arithmetic is a necessary pre-requisite for success in both school and employment setting and in society at large. A large percentage of children suffer from learning disabilities or learning difficulties and therefore do not master or partially master-these required academic skills.

Not surprisingly, each one learns differently. Most of us have our own "learning difficulty", to cope with. Some people don't do well with numbers, others have difficulty in writing. Some people feel they have to discuss a new idea before they understand it; others need to mull it over in privacy.

Learning difficulties and learning problems are often the first descriptive terms used when a child begins to have trouble in school. In some countries, it is used as a synonym for learning disabilities. However, learning difficulties and learning disabilities are usually distinguished with learning difficulties being a broader term. Not all difficulties are learning disabilities. Children develop at different rates and sometimes what seems to be a learning disability may resolve as the child matures. Importantly children who are language learners are sometimes misidentified as having learning disability, as these children are from impoverished backgrounds or with severe problems at home that impact their preparation for school or their behaviour.

The term 'learning difficulty' has been applied to those children who have significantly greater difficulty in learning than the majority of their age. They are unable to make use of the education facilities available in schools. People with learning difficulties can have problems with many every day learning activities. Reading, spelling and numeracy skills are basic to school achievement. Children with specific learning difficulties may show problems in all three areas or only one or two. Reading and spelling are closely associated skills and it is rare to find reading – disabled children who are not at all handicapped in spelling. Most children are likely to be behind in all three areas, although there are occasional reports of subgroups showing rather more of one or the other deficit.

Since the 1980s the broad definition of LD formulated by the US National Joint Committee on LD (NJCLD, 1981/1988) with representation from all concerned disciplines has been widely used. It reads as follows: Learning disability is a general term that refers to a heterogeneous group of disorders manifested by significant difficulties in the acquisition and use of listening, speaking, reading, writing, reasoning or mathematical abilities. These disorders are intrinsic to the individual, presumed to be due to central nervous system dysfunction and may occur across the life span. Problems in self-regulatory behaviours, social perception and social interaction may exist with learning disabilities but do not by themselves constitute a learning disability. Although learning disabilities may occur concomitantly with other handicapping conditions (for example sensory impairment, mental retardation, serious emotional disturbance) or with extrinsic influences such as cultural differences, insufficient or inappropriate instruction, they are not the result of these conditions or influences.

It was emphasized that the term 'Learning Difficulties' as opposed to 'Learning Disabilities' is more acceptable and the employed terminology has many implications for the paradigm of learning for these children. It is considered unethical by some schools of thought to label a child disabled in the context of our restricted educational framework that largely depends on the visual mode of learning. If the educational system were to incorporate extensive multi-sensorial teaching strategies and accept learning outcomes from students in modes other than visual, these children would have a greater chance to cope with the curriculum. For example, a child who has writing difficulty due to poor motor coordination should be allowed to give tests and examinations orally, much like a viva voce. In such a context, it would be apt to term these children as differently-abled rather than learning disabled.

Emphasis of the presentation was the fact that a specific learning difficulty could be viewed as a 'normal' deviance of brain function. Everyone has a difficulty in one area or the other. Most of the time, it does not interfere with day-to-day functioning. However, when the area of difficulty is in the cognitive region, it impedes academic learning, which is largely pegged on the 3 R's (reading, writing and arithmetic) in the current educational system.

To refer to a child with a learning difficulty as a slow learner or as a child afflicted with a disease is completely erroneous. The child with a learning difficulty is neither slow nor diseased. The term 'slow learning' is used rather loosely. If the child with a learning difficulty were to be taught using his dominant learning style, the child would probably respond at par with or even better than his peers.

The child's difficulty should be viewed as a condition that can be surmounted comfortably, provided remedial help is delivered in the right manner at the right time. This is quite like a person who has weak eyesight and wears glasses. The subject is neither diseased nor 'slow' in learning. The condition can be countered by wearing glasses that improve vision. The difference is that weak eyesight is a physiological condition whereas specific learning difficulties are cognitive in origin and do not show up on a physiological test. Hence, we refer to them as 'hidden difficulties'.

Classification of learning difficulties can be given in terms of the originating cause. Functional systems are concerned with classifying on the basis of current level of functioning, which may be measured in a variety of ways. It is worth distinguishing between two different types of etiological classification systems those in which there is an identifiable cause of a difficulty and those in which there is a hypothesized cause. Whereas in functional classification, the basis of the classification shifts from the cause of the difficulty to some measure of the child's current level of performance.

The second group consists of those children whose overall level of intellectual development is normal but who nevertheless have specific difficulty with some particular task, such as reading. On assessment, children with specific learning difficulties usually have a performance profile in which there is a marked difference between their level of achievement in their area of specific difficulty and their levels of achievement in other areas of cognitive functioning. Because of this, such children are often said to show a discrepancy between their achievement and their aptitude in the area of difficulty. Such children are said to have a 'specific learning difficulty' in Great Britain or a 'learning disability' in the United States.

At least one in every ten children of school age will have difficulties with one or more areas of the school curriculum, most commonly reading and spelling. A proportion will overcome difficulties early, but for the majority, learning difficulties are likely to persist and have deleterious consequences on their later careers.

Learning difficulties occur for a variety of reasons. One reason is that the child has some inherent cognitive difficulty that makes learning some skill or skills more difficult than normal. However, some difficulties – perhaps the majority are the result of educational or environmental problems that are unrelated to the child's cognitive abilities. Ineffective teaching strategies can seriously affect a child's level of achievement. Early school failure can lead to a lack of self-confidence with subsequent detrimental effects on learning. A variety of variables associated with home background can also contribute to learning difficulties. Sometimes all of the different factors are intertwined. But, whatever the primary cause, children with learning difficulties have fallen behind their peers in mastering some important aspect of learning. Some children arrive at school lacking in movement skills despite having had a range of appropriate preschool experiences. Problems may occur in the planning of motor movements, and in unsteady or uncoordinated movements, and an inability to interpret sensory inputs. For some children these problems will result in writing difficulties and intervention will be required for the child to cope with the demands of the curriculum.

There is unanimous agreement among educationist today, that the quality of primary education in almost all parts of our country is poor. Even though children progress in primary grades due to the non-detention policy, in practice, little learning is taking place. Children are pushed from one grade to the next, irrespective of how much they are learning. Findings from a number of studies reveal that class III to IV children are not able to read and write even simple sentences. Thus something is surely wrong with the learning outcomes of children (Batra, 2002; Dewan, 2002 and Ramachandran, 2003).

Another factor contributing to the declining learning levels in schools is the curriculum load at each level, which makes it difficult for children to cope with the increased quantity of facts and information. This has encouraged students to go in for private tuitions. A heavy curriculum works against the first generation learners coming from poor background, who neither receive academic support at home nor can afford tuitions. As a result of the curriculum load, schools have lost sight of kindling creativity, developing a critical mindset in children inculcating a value system based on the tenants of our constitution (Ramachandran, 2002).

Evidence of limited learning in government schools is also obtained from the growing belief that these schools are failing to provide adequate learning opportunities, while the demand for quality basic education is increasing (Sinha, 2003). This has spurred the expansion of the private unaided schools. The social composition of the government schools comprising children of poorest households, many of whom are first generation learners, has made it a place where almost no learning takes place.

Another important way the background of learners influenced achievement was in the language spoken by them. In many cases, this was different from the medium of instruction followed in schools. Students speaking local dialects found it difficult to comprehend teaching in the English medium of instruction, leading to a communication gap between teacher and learners. This may have an impact on their learning levels (Aggarwal, 2000 and Batra, 2002).

Learning difficulties not only present problems in coping with academic requirement but has serious repercussions. Teachers and parents label children by their behaviour without knowing that reasons are at the root of the problem. Behavioural problems can be caused by learning difficulties and emotional problems. According to researchers, learning difficulties can cause emotional distress. Children with learning disabilities may have higher levels of depression, anxiety, loneliness and low self-esteem than children with no disabilities.

Children with learning difficulties are frequently criticized and denigrated by teachers and parents and they may be rejected by peers, who are quick to perceive who stands out in the class as being unable to read and spell. As they fall further and further behind they develop a picture of themselves as deficient, different, hopeless and unsuccessful, unless special steps are taken to attend to these issues. Continuing failure and increasing distress further reduce motivation to try and a syndrome of "learned helplessness" may produce indifference to learning, or in some cases, energetic avoidance of school work.

It has long been known that learning problems and behaviour problems tend to go together i.e., children who have specific learning difficulties are more likely than non specific learning difficulties children to have behavioural and emotional problems of one sort or another; and children with behavioural and emotional problems are likely to be high risk for the development of specific learning difficulties.

Learning disabilities may negatively affect a child's social growth. Children with LD who do not have many friends will feel lonely, sad and misunderstood. These children will get into fights easily because they will feel disapproved. Emotional problems may mask learning disabilities. Because adults may pay attention on the child's personality and behaviour, they may ignore the child's learning disabilities. When disabilities are not observed and children do not get help and support, they will come up with any excuse to avoid doing home work tend to drop out of school.

Emotional distress worries, concerns may increase learning disability when children are worried about their school work, their anxieties about their works and their marks can decrease the ability to pay attention to what they are learning. Not paying attention to things that they have to learn can lead children not to comprehend and learn, and at the end they'll give up and dropout of school or many even are truants avoiding schools. According to researchers children do better in school when they feel good about themselves. Parents and teachers have to help children with learning disability to feel good about themselves rather than labeling as lazy.

The association between specific learning disability and behaviour and emotional problems is of great significance over the long time as both behaviour problems and academic problems are likely to persist and both are related to maladjustment, social deviance, unemployment and unhappiness in later life.

The kinds of behavioural problems most closely associated with specific learning difficulties are brought to be the "acting out", "under controlled", or "externalizing" disorders, these are called externalizing because they consist of behaviours that bring the child into conflict with the external environment and the people in it. Behaviours, in the externalizing cluster encompass defiant, aggressive, disruptive, impulsive and antisocial acts including fighting, bullying, temper outbursts, disobedience and uncooperative behaviour. These patterns may be present at home and in the school environment and they lead to the child being negatively perceived by all around him or her.

Another collection of behaviour problems concerns "internalizing", "overcontrolled disorders" or emotional problems. These include socially withdrawn behaviour, anxiety and sadness or depression. These problems are much less often recognized because of their internalized nature, as they cause trouble within the individual rather than between the individual and his/her social world. Hence teachers and parents are not always fully aware that the child is suffering.

Perhaps the most socially significant feature of a learning disability is its invisible and seemingly benign nature (Dyson, 1993). Delayed and conflicting diagnoses are common, leading to belated intervention (O'Hara and Levy, 1984). Meanwhile, the invisible disability may create intolerance toward the child by the family and the general public (O'Hara and

Levy, 1984). Learning disabilities may also generate false hope in the parents (Berman, 1979) who may initially respond to the diagnosis with denial of, and ambivalence about, the child's disability and unrealistic expectations for his/her academic performance (Abrams and Kaslow, 1976; Berman, 1979; Kaslow and Cooper, 1978). These conditions would heighten parental stress (Abrams and Kaslow, 1976; O'Hara and Levy, 1984) and cultivate negative family functioning.

In India it has been estimated that about 12.5 million children with disabilities are to be provided education in the school system. Out of which 3.6 million are children with learning disabilities in the age group 5-14 (Sample Survey, 1981). In India exclusive efforts are not made to find out the incidence of LD but it has been established that 10-12 per cent of our school children are with learning disabilities. These children require help are in an evaluation system predominantly based on written examination which is a disadvantage to the learning disabled child.

Another important issue is identification of learning disabled. As the disability/difficulty is not conspicuous and some characteristics overlap with other conditions such as borderline intelligence, many a time, the educators and administrators are in a fix to decide whom to include? Though the most popularly used definition gives a comprehensive description of inclusion and exclusion, there is no single test that can clearly differentiate LD from other conditions.

Also there is no definitive answer to the question of when a child qualifies for a diagnosis of learning difficulties. But it is obviously better to step in with intervention strategies during the early grades rather than wait until the child is almost on the point of completing primary school with a non-functional level of academic skills, before deciding that there is a real problem. Unfortunately this latter scenario is a common one; many children in schools can be left to struggle for years with their learning difficulties neglected. But one could wait until the child has settled at school, has completed two or three years of instruction and then assess and treat specific difficulties identified in children who are falling behind the rest of the class. Much of the evidence at this stage leans towards the etiological importance of early behavioural problems in the development of learning difficulties. As it is in the early years, up to class IV, that efforts at diagnosing learning difficulties and addressing remedial work in language and mathematics must be directed. A variety of methods may be used including oral & written tests and observations.

Whether a kindergartner scrawls a couple of sentences or an eighth-grader prepares an advanced research report, composing text is a complex academic accomplishment. Because it brings many specialized skills together. Writing has been thought of as falling at the top of the language hierarchy. In fact, most children struggle to acquire writing skills. Writing is a complex domain to learn and teach because it requires bringing together many skills. Writing can also be applied in many different ways. Oral communication can rely on immediate verbal and nonverbal feedback. Written language is highly decontextualized.

The current study therefore is an attempt to identify children with learning difficulties and explore the prevalence of the problem and attempt to study the etiological factors and also the consequences of learning difficulties and/or disabilities on their emotional adjustment and academic achievement. The study was undertaken with the following objectives:

1. To study the prevalence of learning difficulties/disability in primary schools children with English medium of instruction.
2. To explore the etiological factors affecting learning difficulties.
3. To study the emotional problems of children with learning difficulties.
4. To know the academic achievement of children with learning difficulties.

## II. REVIEW OF LITERATURE

A comprehensive review of literature is essential for any good research endeavor as it provides background information to aid the investigator in designing and analyzing research work. The literature collected is presented under the following headings.

### 2.1 Concepts & Definition

### 2.2 Etiological Factors of learning difficulties & disabilities

#### 2.2.1 Child Characteristics

#### 2.2.2 Familial Factors

#### 2.2.3 School Environment

### 2.3 Diagnostic Procedures of learning disabilities

### 2.4 Prevalence of learning disabilities

### 2.5 Consequences of learning difficulties and disabilities

### 2.6 Academic Achievement

### 2.7 Behavior

### 2.8 Intervention strategies \

### 2.9

## 2.1 CONCEPTS & DEFINITIONS

### Learning difficulties

A child with a learning difficulty experiences significant delays in one or more academic or developmental areas. Learning difficulties are often the result of an intellectual disability, physical and sensory disabilities, emotional difficulties, lack of educational opportunities, an illness or disruption to schooling, and/or inadequate environmental experiences, which may be overcome with early intervention & efforts.

When learning difficulty is due to specific developmental delays most of the workers in the area of the scholastic difficulties ascribe such backwardness to learning difficulties caused by a maturational lag. The problems may be wholly or partly due to factors in the child such as sensory motor, Handicaps, Temperamental traits, psychological problems which are associated to learning difficulties. Environmental factors such as poor educational system, psycho social stressors in the context of the family or the school and the inherent nature of scripts in different languages also contribute to learning difficulties.

### Learning disabilities

Learning disability is a general term that refers to a heterogeneous group of disorders manifested by difficulties in the acquisition and use of listening, speaking, reading, writing, reasoning and mathematical skills. Disorders result of factors such as cerebral dysfunction is intrinsic to the individual and occur across lifespan. Problems in self-regulatory behaviour, social perception may exist but does not constitute the disorder by themselves.

### Academic achievement

According to Crow & Crow (1964) academic achievement means the extent to which a learner is profiting from the instructions in a given area of learning i.e., achievement is reflected by the extent to which a skill or knowledge has been acquired by a person from the training imparted to him.

### Writing disability

*Dysgraphia*: Deficits in writing, which may include lack of organization, clarity, unity, fragmentation of written concepts, mechanical errors, reversals, transpositions, and omissions of letters or words. Spelling may be poor, handwriting may be illegible, and written ideas may be disorganized and incomprehensible.

### Writing difficulty

A child with a learning difficulty experiences significant delays in one or more academic or developmental areas. Because of the complex nature of writing skills and applications, writing can be a challenging task to students with difficulties. Children with specific learning difficulties may have difficulties with both the mechanical and process-oriented aspects of writing. This defined handicapping conditions of children as disorders in understanding or using language that result in specific academic deficits, including writing.

### Emotional Problems

### Thought/Behavior Disorder

Individuals may appear confused and disoriented to the environment. It is also associated with self reports of feeling jumpy, agitated, or out of control.

### Verbal Aggression

Individuals who perceived as loud and boisterous, argumentative etc.

#### Physical Aggression

Individuals who bully or physically provoke others, typical of this behavior bumping, pushing, and hitting other people.

#### Non Compliance

Individuals are likely to display rebellious, stubborn, uncooperative behavior little respect for authority and are likely to be disobedient.

#### Hyperactivity

Individuals who appear impatient, impulsive and easily excitable. They are restless and fidgety and may jump from one activity to another.

#### Distractibility

Poor concentration and a short attention span, difficulty in listening to others, following directions and staying on task are characteristics of individuals who have this problem.

#### Anxiety

Difficulty in relaxing and staying calm as evidenced by trembling, shaking or other nervous habits & problems with self-esteem may be common characteristics displayed by individuals possessing this problem.

#### Somatic Concerns

Frequent health complaints & excessive requests to see a nurse or a doctor, they also tend to overreact & become dramatic about minor aches, pains, illnesses & injuries, others may perceive these complaints as way to avoid participating in tasks or activities.

#### Withdrawal

Individuals who appear aloof disoriented in others, appear socially isolated & spend much of their time alone, they describe themselves as quite and unhappy.

#### Depression

Individuals appear sad, gloomy, and unhappy to others, hopelessness, loss of interest in previously pleasurable activities and a general dissatisfaction with life are commonly reported by individuals with high depression scores.

#### Low Self-Esteem

Insecurity and excessive dependence on other people are the hallmarks of individuals with this problem.

Links between academic under achievement and difficulties in behavioral adjustment have long been established (McGee et al, 1988) several epidemiological investigations in the 1960's and early 1970's yielded clear evidence of overlap between reading deficits and behavioral problems of an acting of externalizing nature (Rutter, 1974). Each domain strongly predicts later maladjustment, in that externalizing problems often leads to anti social behavior and substance abuse (Eron, 1987; Gittleman et al, 1985) and severe under achievement in reading not only persists but also carries a poor prognosis of other domains (Spren, 1988).

#### Prevalence of learning disabilities

Omosho (2001) examined the type of learning problems identified by the parent and teachers among elementary school in Ilorin metropolis, Nigeria. The findings for 407 parents and teachers showed that a significantly large proportion identified various learning disabilities problems among their students/pupils. The learning disability problems identified by the largest population were Mathematics problems followed by the most problems reported were writing, reading, attention, speech, memory and visual problems.

Lall (1996) studied perceived peer relations parenting and social competence in children's with academic skill difficulties. A sample of twenty children aged 7 to 12 years with academic skill difficulties described as specific developmental disorders of scholastic skills by ICD-10 and twenty children without academic skill difficulties were taken. Results indicated that, children with academic skill difficulties perceived their relationship with peers as cordial.

However teachers found these children as poorer in social competence. Significant negative association was found between perceived peer relations and perception of mother in dimension of warmth.

#### Learning difficulties

Parvathavardhini's (1983) study in a rural area, in a school survey of 309 children in the age range of 5 to 12 years, 13 per cent were rated as scholastically backward and 6 per cent were reported to have poor school attendance. A community survey of 174 children in the same catchments area appear to suggest that the school going children were more disturbed than the non-school going children. The ratio between disturbed and non-disturbed for the non-school going group was 3:1 and in the school goers it was 2:1.

Janaki (1986) studied the poor school performance in school children's. The sample consisted of 117 girls of Sixth standard of an English medium convent day school. Results suggested that a significant difference in IQ between the average and below average was seen on verbal performance and full scale measures on WISC. Scholastically below average children also had an average IQ. Preponderance of nuclear families, lesser socio-economic and material facilities were seen in the below average group. Poor concentration, although prevalent in both groups was greater in the below average group. Reading and writing difficulties tended to be slightly more common in the below average group.

Jogi et al (1992) found that in a group of 50 children selected from 1<sup>st</sup> to 4<sup>th</sup> standard, majority of the children had scholastics backwardness, thus it constituted more a common problem in both 6 year & 10 years old children. The main cause for scholastic backwardness was found to be faulty parental attitude, poor at motivation for studies, fear of school activities and teacher, isolation among friends, rejection by teachers and difficulties in school subjects.

Ahmeduzzaman (1992) reported that family income was chief variable associated with different dimensions of father's involvement with children. Sarada Devi & Kiran (2002) Studied family factors associated with scholastic performance secondary school children. 100 low achieving students (50 girls 50 boys) of ninth and tenth classes from ten private English medium schools of Hyderabad were taken as sample for the study. Using interview scheduled information related to scholastic backwardness was elicited. Large family size, low educational status of parents, low parental involvement and low parental encouragement were found to be the major family factors associated with scholastic backwardness.

Ginsburg & Bronstein (1993) studied family factor related to children's intrinsic/extrinsic motivational orientation and academic performance. They examined three familiar factors-parental surveillance of homework, parental reactions to grades and general family style. Family, Parent and child measures were obtained in the home from 93 fifth graders and their parents. Teachers provided a measure of class room motivational orientation. Grades and achievement score were obtained from school records. Higher parental surveillance of homework, parental re-actions to grades that included negative control, uninvolvement or extrinsic reward and over-and under-controlling family styles were found to be related to an extrinsic motivational orientation and lower academic performance. In addition, socio-economic level was significant predictor of motivational orientation and academic performance.

Agarwal K. L. (1997) studied the parental encouragement amongst the different educational groups of the male and female students. The sample consisted of 100 students studying in the class 8,9,10 & 11<sup>th</sup> of the higher secondary school at Pauri District. The intelligence test and a personal data schedule were administered. The sample was trichotomized into higher, middle and low education group based on the marks of the previous examinations. Results revealed that there is significant difference between the means scores of boys and girls of low achieving groups indicating that girls are receiving much more amount of parental encouragement than the boys.

Rozario (1988) in a study of 1,374 adolescents, 12 to 16 years of age found 32 per cent to be scholastically backward. Of the scholastically backward, 46 per cent had

physiological disturbances, while 31 per cent of the non-disturbed were also scholastically backward.

Shenoy (1992) studied a population of 1549 children in the age range of five to eight years from middle socio economic status and reported scholastic backwardness in 11 per cent of boys and 8 per cent of girls and interesting of age trend of decline in percentage of scholastic backwardness in girls and increase in boys was noted. Rozio (1991) in a study of 110 children of 9 years of age from lower, middle socio-economic status, found nearly one third children to be scholastically backward a majority of them had specific learning disabilities.

#### Gender & attribution of etiological factors

Licht et al (1985) found that learning disabled girls were significantly more likely than non-disabled girls to attribute their difficulties to insufficient abilities, but they did not differ in there tendency to attribute their difficulties to external factors. In contrast, LD boys were significantly more likely than non-disabled boys to attribute their difficulties to external factors. 38 LD and 38 NLD children served as subjects for the study LD children view their failures as due to the teachers overall negative attitude toward them.

#### Approach to learning disabilities

McMillan et al (1998) studied 150 children from five southern California school districts, grades 2 (N=46) 3 (N=56) & 4 (N=48) referred by their general education teachers to school study teams (SSTs) for learning disabilities eligibility. Children were classified as LD is ability on the basis a WISC-III full scale IQ of 82 or higher and 22 point discrepancy between IQ and WRAT-R, achievement score. Over half of the students referred to SSTs were certified by the schools as LD, yet less than half of these school-certified students with LD evidenced the aptitude-achievement discrepancy required by the state. Examination of the cases called LD by the schools revealed that children were classified on the basis of low absolute achievement of whether or not a discrepancy existed. More over, in cases were a discrepancy was found but the schools did not classify the child as LD, that child evidenced significantly higher achievement despite exhibiting the requisite 22 point discrepancy. The school identified the students with LD constituted an extremely heterogeneous group, including students with mental retardation along with a substantial number who failed to qualify for any special services.

Support for this argument is found in the study conducted by Gottlieb et al (1994) reported that urban students with LD had a mean IQ that was half SD lower than that of sub urban students with LD.

Francis et al (2005) used simulated data were the group subdivision were inherently arbitrary to examine the stability of IQ discrepancy and low-achievement definition of LD. Actual sample involve 445 children. The Woodcock-Johnson Psycho educational Test Battery was administered yearly beginning in kindergarten through grade 12 and into adulthood. Test scores from grade 3 & 5 were selected for analysis these results showed that the practice of sub-dividing a normal distribution with arbitrary cut points leads to instability in group membership. Approaches to the identification of children as having LD based solely on individual test scores not linked to specific behavioral criteria lead to invalid decision about individual children.

Salvesen et al (1994) investigated the use of teacher assessments in screening for learning disabilities. In a longitudinal study, 603 children were rated by the teachers in the II grade (8 to 9 years) and the ratings were correlated with examinations of reading, spelling and intelligence in III grade. The III grade testing for reading, spelling and intelligence classified children into groups with low achievement and dyslexia and these two groups were compared with normally achieving children. The accuracy of teacher assessment, measured with correlation analysis. ROC (Receiver Operating Characteristics) curves and kappa indices showed that teachers were quite accurate in their judgment of low achievement, but some what less efficient in their judgment of specific reading difficulties.



## 2.2 ETIOLOGICAL FACTORS OF LEARNING DISABILITIES AND DIFFICULTIES

### 2.2.1 Child Characteristics

Research indicates that, the children with LD may have academic learning difficulty due to basic reading comprehension, written expression, mathematical calculation, mathematical reasoning, language disorders (deficits in oral expression, and listening comprehension, perceptual disorders (inability to recognize, discriminate, interpret, visual auditory memory and inter-sensory integration), Meta cognitive deficits (predicting, planning, checking and monitoring), socio emotional problems (negative feelings of self worth, poor self esteem, poor self concept, lack of interaction with peers, adults, behavioural problems-distractibility, impulsivity, disruptive behaviour, withdrawal, dependency and perseveration), memory problems.

### 2.2.2 Familial Factors

Recent research has confirmed that dyslexia has a hereditary basis (Cardon et al., 1994; Fisher et al., 1999) and behavior-genetic analyses have shown that phonological and orthographic skills share heritable variance with word recognition processes (Olson, Datta, Gayan & DeFries, 1999) however the complex interactions between genes and environments are such that the relationship between the dyslexia at the genetic level and dyslexia at the behavioral is far from understood. As Mortan and Frith (1995) have argued, brain behavior relationships are mediated by cognitive deficits; in term, these depend on environmental interactions that together can provide an integrating explanation for a diverse range of behaviors seen in developmental disorders.

The first prospective study of children at family risk of dyslexia was reported by Scarborough (1990) who followed the progress of thirty two year olds from families with a history of reading disability during the early school years comparing them with children from families of similar socio-economic backgrounds who did not report a positive history of dyslexia. At 8 years, 65 per cent of the high-risk sample (20 children) was classified as reading-disabled. Retrospective analyses showed that, at 30 months, children who went on to be dyslexic used as wide a range vocabulary in their conversation as controls and children from high-risk families who were normal readers. At 36 & 42 months, their vocabulary development was not as good and syntactic difficulties persisted (Scarborough, 1991). At 5 years of age the children who went on to be dyslexic had poor letter knowledge, poorly developed phonological awareness and expressive naming difficulties.

Snowling et al (2003) studied the development of 56 children at family risk of dyslexia was followed from the age of three years, nine months to eight years. The Wechsler Objective Reading Dimensions (WORD; Golomok, and Trickey, 1993) British Abilities Scales II (BAS II; Elliott, 1996) measures were administered at different level. Reserves revealed that in high risk group, 66 per cent had reading disabilities at 8 years compared with 13 per cent in a control group from similar, middle class backgrounds. However the family risk of dyslexia was continuous and high risk children who did not fulfill criteria for reading impairment at 8 years performed as poorly at age 6 as did high-risk impaired children on tests of Phoneme knowledge. The literacy-impaired, high risk children performed worse than controls across all of the oral language tests, showing deficits in grammatical skills, on phonological processing and phonological awareness tasks, and on tests of verbal IQ. On tests of literacy attainment (WORD) at the age of 8 years, the high risk impaired children showed deficits on all literacy tests (reading, non-word reading, reading comprehension and spelling) compared with high-risk unimpaired children and controls.

A buffer against the stressful instructions of the work place in to the family is the parents' social supports. The links that the parents have with others in their social field enable resources to flow from community to parent, which can maintain well being and contribute to effectiveness.

### Environment & learning problem

Feller et al (1987) revealed that youth from homes in which adults were employed in low income unskilled occupations were found to have lower levels of school performance and

achievement compared to those from home in which adults were employed in higher paying semi skilled or skilled/professional occupations. Data was collected from 398 middle grade early adolescent (Henry et al, 1996). Further Muni and Panigrahi (1997) surveyed 80 children having equal number of employed mothers and housewives. The results indicated that children whose mothers employed were better adjusted in social emotional and educational area compared to children of housewives.

The research also shows that the earlier in a child's educational process parent involvement begin, the more powerful the effects will be. Educators frequently point out the critical role of the home and family environment in determining children's school success, and it appears that the earlier this influence is "harnessed," the greater the likelihood of higher student achievement. Early childhood education programs with strong parent involvement components have amply demonstrated the effectiveness of this approach.

In India, a study by NCERT-National Centre for Education Research and Technology (1978) also indicated that ultimately the home variables and child's intelligence account for differences in school achievement. Keeping IQ and SES constant; the single most important variable which tilted the balance in favour of school achievement was facilities for language at home. Besides child's reading practices, other characteristics of the home setting and relevant to the child's development are parent education, number of children in the family, available books toys and facilities. Parents play a very important role in minimizing the incongruence between home and school.

### 2.2.2 School Environment

Apart from the home background and pupil factors, school and teacher characteristics also influence learning outcomes.

Govinda and Verghese (1993) found in M.P. that students in schools with poor facilities scored twice as high in Hindi & Maths compared to those in schools with no building and poor facilities. Other researches have found that students in schools with adequate classroom facility scored higher than those in schools which were lacking in them (Shukla et al., 1994; Bashir, 1994; Singh, 1996; Aikara, 1997;)

Amongst the important pupil characteristics that were correlated with achievement, gender was an important issue. The National Council Educational Research and Training-NCERT national survey of learning achievements by NCERT found gender differences in achievement to be relatively small, with boys performing marginally better in states like Bihar, Karnataka, M.P., Rajasthan and U.P. In states with high primary school participation rates, such as Kerala and Tamil Nadu, the study found differences in achievement of boys and girls (Shukla *et al.*, 1994). Govinda and Verghese (1993) concluded that gender of the student was not associated with achievement in urban areas, but boys tended to perform better than girls in rural areas, due to differential parental encouragement and supportive facilities given to them.

Teacher quality is another variable that has a significant impact on pupils' overall achievement scores. It was found that teacher education/ qualification was the most important determinant of students' achievement in both advantaged and disadvantaged regions (Govinda and Verghese 1993; Kingdon, 1998; Saxena, Singh & Gupta, 1996). Teacher experience was found to be an important predictor of student achievement in major empirical studies. Studies have reported a negative correlation between multigrade teaching and learning outcomes. Bashir (1994), Govinda and Vergheses, (1993), Saxena, *et al* (1996).

Strong positive associations between teaching practices and students' achievement emerged from the studies reviewed. Practices such as giving assignments to students in maths and language, providing testing and feed back & giving homework were seen to be positively associated with students' learning (Saxena, Singh & Gupta, 1996).

Class size or pupil-teacher ratio was a school variable that was not found to be consistently affecting achievement across all studies. Saxena, Singh & Gupta, (1996) found that school mean achievement continued to decrease as the pupil- teacher ratio exceeded fifty.

Bashir's (1994) study in Tamil Nadu concluded that the pupil-teacher ratio had a positive effect on maths achievement (since math could be taught with peer group teaching), but for reading comprehension, which required individual attention, a larger class had the expected negative effect.

Slate and Saudargas (1986) also found that students with learning disabilities received more individual contacts with the teacher, but that these contacts related to being engaged in an activity other than school work. However, the academic engaged time of the mainstreamed students with learning disabilities was not significantly different from that of average-achieving peers. Researcher employed the State-event Classroom Observation System (SECOS) (Saudargas and Creed, 1980). A system that uses 15-S momentary time-sampling procedure to capture the state of student behavior (e.g: School work) and specific event, such as hand raising or calling out.

Similarly, Fellers and Saudargas (1987) also using the SECOS code, attempted to determine any major differences in teacher behavior toward elementary school girls with and without learning disabilities in the regular classroom. They found that teachers did not spend more time interacting with girls with disabilities, but they ignored call outs from girls with disabilities more than from girls without disabilities. This finding is apparently in consistent with the previous finding Slate and Soudagar (1986) concerning boys with learning disabilities.

## 2.3 DIAGNOSTIC PROCEDURES

Diagnosis plays a significant role in shaping of individual identities and the quality of life for people with learning difficulties and their family carers.

The public schools have accelerated the rate at which they identify students with LD. At present, LD accounts for over 52 per cent of all children with disabilities (there are 13 disability categories) served under part B of the individuals with Disabilities Education Act (IDEA). Moreover between 1976-77 and 1992-93, the number of children served as LD nationwide increased by 198 per cent, while during the same period, there was a corresponding decrease of 41 per cent in children with mental retardation served and 15.5 per cent in children with speech and language impairments (US Department and Education, 1995).

For the controversial issue of identification of children with learning disabilities one possible solution is that increased emphasis placed on the use of professional judgment by using measures of school performance to determine placement. (Bateman, 1994; Bocian, Beebe, McMillion and Gresham, 1999).

### Academic behavior of students with and without learning disabilities

Thurlow et al (1983) explored the active academic responses of students with and without learning disabilities and found that the groups did not differ in total active academic responding times overall, in task management responses overall, or in inappropriate responses overall. The two groups of students differed in the time they spent engaged in specific types of academic responses. For example, students without learning disability spent more time writing than did students with disabilities, where as the latter students spent more time playing academic games, reading aloud, talking about academic, answering academic questions.

### Gender differences in learning disabilities LD

Numerous neurodevelopment disorders, including cerebral palsy, attention-deficit hyperactivity disorder (ADHD) autism, speech and language disorders and learning disabilities are diagnosed more often in boys than in girls (Abramowic & Chen, 1981). Researches have advanced theories emphasizing the importance of gender differences in rates of maturation (Ounstead & Taylor, 1972). Chromosomal structure (Childs, 1965), thresholds of genetic vulnerability (DeFries, 1965), thresholds of genetic vulnerability to birth complications (Singer, Westphar & Niswander, 1968) as possible explanations of the male prevalence neuro-developmental disorders.

Girls with LD may be underestimated, putting them at risk for academic, social and emotional challenges (Shaywitz et al 1990). Teachers refer boys more often than girls for assistance prior to special educators. Green et al (1996) reported some factors that lead to significantly high reference of boys. Boys tend to have more externalizing problems. More optimistic views about girls were observed such as girls will improve as they mature. Social expectations for girl's academic learning were not consistently high. Girls exhibit more passive behaviours such as sitting and daydreaming. So they are less likely to be identified than boys (Shaywitz et al 1990). Smith (2004) revealed that boys are 1.5 or 6 times more likely to be identified than girls are. Boys are far more likely to be identified as LD despite the research suggesting an equal incidence of LD among girls and boys. These could be linked to possible medical, maturational, sociological and brain organization factors.

Liederman, *et al.* (2005) reviewed studies that were designed to minimize ascertainment bias in the selection of individuals with reading disabilities. These include population-based studies that identified children with reading difficulties by objective, unbiased methods and studies that examined the gender ratios among the affected relatives of those diagnosed with reading difficulties. Authors concluded that even when ascertainment biases were minimized, there is still a significant preponderance of boys with reading difficulties, although the gender ratio of the affected relatives of those with reading difficulties manifests the weakest male bias. Suggesting that male prevalence of reading difficulties is not a myth but reliable phenomenon. Reanalyzing the data from the twin study originally published by Bakwin (1973), DeFries (1993) demonstrated that the difference between female identical and fraternal twin concordances was greater than at between male identical and fraternal twin concordances this pattern is consistent with the hypothesis of the relatively greater importance of genetic factors in the development of reading difficulties in women than men.

## 2.4 CONSEQUENCES OF LEARNING DISABILITIES/DIFFICULTIES IN CHILDREN

It has long been known that learning problems and behavior problems tend to go together. That is, children who have specific learning difficulties are more likely than non specific learning difficulties to have behavioral and emotional of one sort or another. Children with behavioral and emotional problems are likely to be at high risk of the development of specific learning difficulties.

The epidemiological study that reawakened the field to the association of interest was the Isle of Wight investigation of Rutter et al (1970). This pioneering study made use of a two stage procedure for assessing both under achievement and psychiatric disturbance. First the general population of nine-eleven years old on rural Island was screened for intellectual and academic retardation and psychiatric disturbance, plus a randomly selected group of children from the general population. Results indicated that, children with specific reading retardation were over four times more likely than the general population to display anti social behavior. Similarly, Stevenson et al (1985) studied linkages between cognitive reading difficulties and behavior problems. They proved there was association between these two problems among children from kindergarten to elementary school years.

Similarly, most of the results of the studies (McGee et al, 1985; McGee & Sheare, 1988; Morrison et al, 1989; Szatmari et al, 1990) essential conform the finding that among kindergarten and grade school children, inattention and hyperactivity were the most consistent correlates of under achievements.

McKinney et al (1986) studied forty-seven school identified learning disabled (LD) students who had been classified into seven behavioral sub types by a technique of hierarchal cluster analysis were followed longitudinally for three years (McKinney & Feagans, 1984). Students with learning disabilities were classified using 60-item version of the Classroom Behavioral Inventory (CBI) (Schaefer, Edgerton and Aronson, 1977) classroom teachers and special education teachers rated children each year on measures of independence-dependence, task orientation-distractibility, extroversion-introversion and considerateness-hostility. Also measures of reading and mathematics achievement were

taken each other. Children with attention problems and those who presented problem behaviors in the classroom during the first and second grades showed poorer achievement outcomes in later grades, compared with those who did not present a typical behavior and those who presented a withdrawn pattern of behavior. Although children tended to switch subtype membership over three years, the proportion of learning disabled children in adaptive and maladaptive subtype was similar at years one and three, as determined by classroom teachers' ratings in subsequent years.

Similarly, a series of earlier studies showed that LD children as a heterogeneous group, displayed maladaptive patterns of classroom behavior that distinguished them from average achieving peers and were associated with their failure to progress academically (Feagans & McKinney, 1981; McKinney & Feagans, 1983, 1984; McKinney & Speece, 1983). Parents of the learning disabled children experienced greater stress than did parents of non-disabled children. Furthermore, despite few problems in sibling relationships, the families experience adaptational difficulties, especially with regard to the school (Dyson, 1996).

Bevington et al (1991) explored the association between poor academic achievement and behavioral problems by examining the direct effects of peer presence on classroom performance in children with identified learning difficulties. It was hypothesized that independent performance on a cognitive task would decrease as number of classrooms peers present increased. A total of 24 children ranged 9-14 years attending two special schools for children with emotional and behavioral difficulties participated in the study. A within-subject design was used in which performance on a set of perceptual/conceptual matching tasks was assessed under three conditions: the child working alone, along side on other peers, or within a group of six. Measures of non-verbal intelligence and academic attainment were collected along with teacher ratings of the severity of each child's behavior. Performance was significantly influenced by peer presence, both in terms of number of correct responses and time taken to complete the matching tasks.

Handwerk *et al.* (1998) investigated the behavioral and emotional problems of children with learning disabilities (LD) serious emotional disturbances (SED) and LD/SED, using the Teacher Report Form (TRF). The sample consisted of 217 students with LD, 72 with SED & 68 with SED/LD ages 6 to 18 (mean age = 11.5). A univariate analysis revealed that four scales significantly contributed to the multivariate effect for gender. Parents rated girls has having more somatic complaints, attention problems, more delinquent behavior and more aggressive behavior than boys. And for social problems, the SED group scored higher than the LD group (LD < SED). Also the children with learning disabilities differed from those with SED (serious emotional disturbance) mainly in terms of severity of problems, not with respective type of problems.

Similarly students diagnosed as LD of an experience emotional problems. McConaughy (1986) & McConaughy and Ritter (1986) reported that boys with LD experienced significantly more problem behaviors on the Child Behavior Check List (CBCL) than Non-referred boys. In one more study, Ellen (1989) compared groups of students with LD, SED & no handicapping conditions on a scale that measured acting-out, learning problems and shy-anxious behavior. Teachers rated with LD as having significantly more problems than their non-diagnosed peers on all dimensions.

Margalit (1998) examined loneliness and coherence among Israeli pre-school children with learning disabilities. The sample consisted of 187 pre-school children divided into three groups (a) 60 children at high risk for developing learning disabilities, 47 boys and 13 girls. (b) 76 non-handicapped peers from the same pre-schools, 56 boys and 20 girls. (c) 51 children (38 boys & 13 girls) the research instruments consisted of the children's Sense of Coherence Scale, the loneliness scale, a peer nomination procedure and teachers' ratings. Two-way MANOVAs demonstrated that the two groups of children with LD and with a high risk for developing learning disabilities were less accepted by peers than students in the non-disabled group and their number of reciprocal nominations was smaller. Further more their teachers viewed exhibiting more learning difficulties and less adjusted behaviors than their counterparts (Non-disabled peers). Gender comparisons revealed that girls were showed higher levels of adjusted behavior than boys. And also high loneliness scores and low sense

of coherence were found among the children with learning disability and the high risk group. Findings of the study was supported by studies highlighted their social distress (Bender and Wall, 1994) loneliness and rejection by peers (Margalit, 1991).

Adams (1999) examined the relationship between behavioral problems and academic attainment in a large UK primary school. A school population - 364 children aged 8 to 11 years was assessed on a range of cognitive ability tasks. These included standardized tests of reading, arithmetic and verbal and non-verbal intelligence. Under achievement were assessed using different criteria. To assess behavior, teacher completed the strengths and Difficulties Questionnaire (R-Good-man, 1997) for each participating child. Finally, academic progress of subset of children was assessed after one year. Results indicated that a significant relationship between behavior and academic attainment, prosocial behavior was positively correlated with reading & arithmetic, hyperactivity and conduct problems were negatively correlated. This association was especially strong in the children rated by the Questionnaire as hyperactive, where around 1 in 5 had a specific reading deficit.

It is seemingly important to distinguish children with specific learning disabilities from learning difficulties. Depression among students with learning disabilities (LD) has been an area of study for more than 25 years. By the mid 1980s, research began to emerge on the prevalence of depression among students with LD in school settings. The majority of these studies indicated that students with LD obtained statistically higher depression scores than their peers without LD (eg. Maag Behrens and Di-Gangi, 1992; Maag and Reid, 1994; New-Comes *et al.*, 1995; Wright-Stawderman and Watson, 1992).

Therefore, the prevalence of depression in students with LD may be much higher than the 2 per cent found in the general population (Kashani *et al.*, 1983; Kashani and Simonds, 1979). Extensive research documents the difficulties that students with learning difficulties experience in forming and maintaining satisfactory social relationships (Gresham and Raschly, 1986; Pearl, 1992). Studies highlighted their social distress (Bender and Wall, 1994), loneliness and rejection by peers (Margalit, 1991). Low social acceptance, rejection by peers and problems in making friends were repeatedly found to be predictors of the negative experience of social isolation and loneliness (Asher *et al.*, 1990 ; parker and Asher, 1993).

Heath *et al.* (2000) compared girls and boys with and without learning disabilities (LD) on mean reports of depressive symptoms, prevalence of depression and type of depressive symptom reported. 100, fourth-, sixth-grade children with LD and 104 children without LD were compared on the Children's Depression Inventory (Kovacs, 1992). Results revealed that mean level of depressive symptoms between students with and without LD did not differ but prevalence of depression was marginally different. Girls with LD reported higher mean levels of depressive symptoms and higher prevalence of depression than girls without LD where as their was no difference mean levels of depressive symptoms or prevalence of depression for boys with or without LD. Girls reported more negative mood and less inter personal effectiveness.

Merrell (2001) determined the proportion of children who were assessed by their teachers as exceptionally inattentive, hyperactive or impulsive in the classroom. The relationship between the traits and academic achievement and progress were examined. The participants were comprised of 4, 148 children from a nationally representative of a schools in England. Reading and mathematics achievement of participants were assessed at the start and end of the reception years and in year 2. Behavior was assessed at the end of the reception using a rating scale. The proportion of children with exceptional scores on the behavior rating scale was reported. The reading and mathematics attainment and value added of children with high scores on the behavior rating scale was reported. The reading and mathematics attainment and value added of children with high scores on the behavior rating scale were found to be educationally & statistically significantly lower than children with zero scores

Maag *et al.* (2006) studied the depression among students LD, with the sample of fourteen studies included 1701 participants with LD. Database was searched for articles beginning in 1977 and continuing to August 2003. Results revealed that students with

learning disabilities statistically higher scores on measures of depression than their peers without LD done for the purpose of meta-analysis of the data based literature and quantify mean differences in depression measure scores and levels of clinical depression between students with and without LD. Results revealed that researchers have found that students with learning disabilities obtained statistically higher scores on measures of depression than their peers without LD.

Similarly, Stevenson and Romney 1984 conducted one of the first studies examining depression in 103 students with LD ages 8 to 12 in a school setting, found that depression in 14 per cent of the sample of students with LD.

Further, Shanti (1999) examined temperament, behavioral problems and disciplining style in children with scholastic skill difficulties a purposive sample of 20 children with scholastic skill difficulties was chosen from the Child and Adolescent Mental Health Unit NIMHANS, Bangalore. The children were between 5 to 8 years of age. A control group consisting of age and sex matched norms was chosen from two English medium schools. Results showed that children had higher rate of externalizing, internalizing, learning and miscellaneous problems. Their temperament profile was one of low adaptability and average intensity and distractibility.

In homes with a child with disabilities, siblings may establish rigidly defined roles. Roles frequently adopted by the siblings of children with LD are the "super achiever" and the "mediator" (Atkins, 1991, p. 528). No matter what role these siblings assume, they feel in no way special or important and thus develop a low self-concept (Atkins, 1991). Moreover, because siblings influence each other (Sutton-Smith and Rosenberg, 1970), they may also develop low self-concept through identification with their brother or sister with learning disabilities. Furthermore, siblings may encounter an unfavourable school environment. Teachers of children with learning disabilities expect these children's younger siblings not only to do well on academic, perceptual and memory tasks, but also to make less progress during the school year than younger siblings of non-disabled students (Richey and Ysseldyke, 1983).

Dyson (1996) examined parental stress, family functioning and sibling and self-concept in families with children with learning disabilities. Qualitative and quantitative measures of 19 parents and 19 siblings of school age children's with learning disabilities totaling 38 siblings and parents. The children with disabilities consisted of 16 males and 3 females, ages 8 to 15 ( $M=10.6$ ,  $SD=1.7$ ). Measures used were Wechsler Intelligence Scale for Children-Revised (Wechsler, 1974) Social Competence Scale of the Child Behavior Check List (Achenbach, 1981), Questionnaire on Resources and Stress-Short Form (QRS-F; Friedrich and Greenberg and Crnic, 1983) on Resources and Stress (Holroyd, 1974). Results revealed that functioning of the families and the self-concept of the siblings were comparable to that in families of non disabled children but the parents in the former group experienced greater stress than did the parents of non disabled children. Further more despite few problems in sibling relationships, the families experienced adaptational difficulties, especially with regard to the school. Likewise it has been reported that although families experience emotional strain and isolation related to having a child with learning disabilities they also have positive family experiences (Waggoner & Wilgosh, 1990).

#### Academic Achievement:

Academic achievement is influenced by several factors besides intelligence most important of which is the parental support to child receives for education. In fact researches show that parental support is a powerful correlate of academic achievement than socio-economic status and intelligence.

Bacete *et al.* (2001) examined whether parental involvement in school activities and family socio-economic status are associated with children's academic achievements. 150 Spanish seventh graders completed intelligence tests, and the teachers assessed parents' involvement in the school and estimated parents' cultural levels to measure, academic achievement the pupils' overall grade was taken from the Pupils' Final Examinations Registers. The education and professional level of the mother and father and home size were

obtained from the Pupils' Personal Registers. These variables define the family economic status. The data analyzed through application of structural equations, suggest that academic achievement is directly influenced by the cultural level of the family and the child's intelligence, but is indirectly influenced by parental involvement in school activities and socio-economic status of the child's family.

#### Family environment

The family environment itself provides both risk and protective factors; risk factors include activity level of the child, parental expectations and disappointment with academic performance, lack of flexibility to meet the normal developmental challenges and special needs, over protection, parent-child enmeshment and rigidity.

A study by Rashid et al, 2005 focuses on the relationship between parent and child home literacy activity and children's academic functions was investigated with a sample of 65 elementary-age children with reading disabilities and their primary care givers. Three combinations of readings course were used to provide an index of reading achievement viz., Woodcock Reading Mastery Test-Revised (WRMT-R), Wide Range Achievement Test-3 (WRAT-3) and Word Identification, Word Attack. Results revealed small but significant correlations between race and IQ, mother's education and literacy scores and child age and several of academic and literacy variables. And examinations of the responses to the child literacy questions revealed that the literacy experiences in the home varied greatly within the sample. Approximately 22 per cent of the children were read 7 to 9 times per week. More than half of the sample never visited the library. 20% of the children never read or looked at books alone at home. The children in the sample rarely watched educational programmes on Television. The results also indicated that children's home literacy activities were not significantly related to any of these academic abilities whereas parents' home literacy activities were significantly related to children's passage comprehension and spellings course.

Similarly, a meta analysis of 101 related studies by White (1982) also suggested that when the home atmosphere (e.g. Parents' attitude toward educational parents' aspirations for their children, cultural and intellectual activities of the family) relatively high correlations were found with academic achievement.

Worrell *et al.* (1999) examine the amount and types of responses to homework assignments reported by parents of academically talented elementary school students. Participants consisted of 577 students in kindergarten through great six who attended a summer programme using a modified version of Homework Problem Check List, parents provided information on students' responses to completing homework, the amount of homework given in school and the amount of time spent assisting with the homework. Results indicated that academically talented students completed homework with few negative responses. And the amount of homework assigned in the school and the amount of proposed summer homework increased with grade level, the amount of time parents spent assisting with homework did not increase beyond the first grade.

Students with learning disabilities are more likely than other students to have problems doing homework. Family and school factors that may exacerbate or ameliorate their problems as well as the intervention research that has included students with learning disabilities are described. An emerging area of intervention research suggested that effective efforts to improve homework completion, accuracy and test performance may require parental involvement, peer cooperation, self monitoring or all.

Gajria (1995) examine the homework practices of 48 students with learning disabilities and a matched sample of 48 non-disabled students. Students ranged in age 11 to 15 years, attended grades through 8 and completed the Student Survey of Homework Practices. Results indicated that although there were some similarities in the practices of both groups the students with learning disabilities engaged to a significantly greater extent in practices that interfered with homework completion.

Cooper *et al.* (1999) examined relationship between five after-school activities and academic achievement with four hundred twenty four students in grades six through twelve



and with 5 types of after school activities: Homework, television viewing, extra curricular activities, other types of structured after-school groups and jobs. Students standardized achievement test scores and class grades were also obtained. After-school activities contributed significantly to the prediction of achievement, even after the students' gender, grade level, ethnicity, free-launch eligibility and level of adult supervision after school activities were statistically controlled. More time on homework was associated with better grades.

## 2.5 BEHAVIOR

McKinney & Feagans (1984) observed elementary school students with learning disabilities in the regular classroom during academic activities using Scheduled for Classroom Activity Norms (SCAN) a time-sampling system that records task-oriented, social and affective behavior as well as the settings in which the behavior occurs. They found that the students with learning disabilities tended to be less on-task and to exhibit more off-task behavior than their classmates. They were also more distractible and dependent or aggressive, which is significantly, negatively correlated with academic progress.

Similarly, Bender (1985) found that the students with learning disabilities demonstrated more off-task behavior than did their low-achieving peers, although during whole-group instruction, both groups were more likely to be off-task in a passive manner than they were during seat work.

Lane et al (1994) compared seventh-and eighth-grade students with and without learning disabilities on two story production tasks. Results indicated that hand written compositions of students with learning disabilities were technically inferior to normal achievers compositions. It appears that learning disabled students display weaknesses in various linguistics and technical requirements of writing and that oral composition may offer advantages to these students.

McIntosh *et al.* (1993) observed students with learning disability in 60 general education teachers' classrooms in comparison with their behavior toward students without disabilities, interactions between students and between students and teachers. Observations using the Classrooms Climate Scale (CCS) indicated that few teachers' behaviors and classroom practices like students with learning disabilities infrequently ask the teacher for help or assistance, do not volunteer to answer questions and interact both with teachers and classmates at a lower rate. Teachers infrequently interact with the students with learning disabilities. Similarly, La, Greca and Stone (1990) found that students with LD were less accepted by peers than were low and average achieving students.

Dorval, McKinney and Feagans (1982) found that general education classroom teachers initiated conversation more frequently with main streamed students with LD than with average-achieving students, but that these initiations were primarily directed to inattentiveness and rule infractions.

Dornbusch, Elworth & Ritter (1988) based on responses of 7,836 high school students found that adolescents who reported that their parents responded to the grades they receive with extrinsic rewards or punishment or remained uninvolved, expended less efforts in the school and had lower grade point averages. On the other hand, parents' encouragement in response to grades was positively correlated with adolescent's academic effort and performance.

Khare (1996) with a sample of 212 students of middle schools of Bhopal city investigated the difference in learning environment of home in academic performance of students. The results showed that significant correlations between home environment and achievement in boys and girls also there is significant difference in school achievement of boys and girls

## 2.6 INTERVENTION STRATEGIES

Bhise and Desetty (2004) studied the writing errors of elementary school children. A stratified random sample of ninety out of 314 standard IV school going children of Prabhani

town based on their magnitude of writing errors like additions, deletions, substitutions, grammatical and punctuation errors in addition to improperly writing down alphabet and numbers were studied. The results revealed that early developmental milestones, good study habits interest and progress in studies (> 80% marks) of these children and their more parental efforts and involvement seemed to help group 1. these children committed less errors in written down the dictated passage and numbers than their counterparts.

Venugopal K. (2005) emphasized on the importance of diagnosis and remediation of pre-reading and pre-writing difficulties of pre-schoolers 10 pre schoolers were selected randomly of a population of 120 pre-school children. The pre-school programme consisted of 2/3 years durations and catered to children of ages 4-6 years. An intensive 10 days training programme on diagnosis and remediation for pre-reading and pre-writing difficulties (EDRRWDPS, 1999) was conducted with 12 pre-school teachers. After training, teachers successfully diagnosed 60 pre-schoolers, with a mean age of 5 year 3 months and had completed at least 12 months of pre-schooling in that school. Results of pre and post testing phases revealed that the pre-reading impaired students improved significantly in the post-test phase and also the performance of pre-writing impaired students improved significantly for hand writing and punctuation, indicating the effectiveness of intervention for reading and handwriting while there were no significant differences found between pre and post-test performance for spelling and creative writing of students without such difficulties.

Vaughn et al (2003) examined response to treatment model as a means for identifying students with reading or learning disabilities, 45 second-grade students at risk for reading problems were provided daily supplemental reading instruction and assessed after 10 weeks to determine if they met a prior established criterion for exit from supplemental instruction. Students who met criteria were exited from supplemental instructions and those who did not meet criteria were provided another 10-week segment of supplemental instruction. Using measures Texas Primary Reading Inventory (TPRI): screening Test of Oral Reading Fluency (TORF), Comprehensive Test of Phonological processing (CTOPP) all students were tested after 10 weeks of intervention and those who met criteria were discontinued from further supplemental instruction. Students whose progress in reading allowed them to exit supplementary reading after 10 weeks of intervention were referred to as the early exit group. Students who never met criteria were classified as no exit. Pretest scores on fluency, passage comprehension and rapid naming were the significant predictors of students who did not meet criteria for exit, a distinct cohort of students who required substantial support and more intensive and explicit instruction. A learning disability denotes a range of primary difficulties in the academic subjects and secondary problems in social and emotional domains (Mercer, 1986; Winzer, 1990) family system theory suggests that family members interact in a transactional manner (Munichin, 1985), it follows that a child's learning disability would have ramifications on the parents, family system, and siblings (Pfeiffer, Gerber and Reiff, 1985).

The present study is an attempt to study the emotional problems in terms of thought disorder, anxiety, withdrawal, depression, non compliance, somatic concerns, hyper activity, physical aggression, low self esteem as consequences of learning difficulties, using teacher ratings in lieu of the trends observed in research.

The parents' encouragement on achievement and good academic performance and parental stress on achievement has been highlighted in review. This would have serious consequences for a child who has learning difficulties who would unable to live up to this expectation. Role of family environment has indicated interpersonal relations and conflictual families (Margalit and Almougy, 1991). Families have found to place greater emphasis on achievement. The perception of parental acceptance played an important role in the child's self esteem. Study done by Bhola 1995 found a partially significant association of the self esteem and family learning environment.

An attempt has been made to study the extrinsic causes of learning difficulties. Research being sparse in both western and Indian settings this study would add to understanding of the child's difficulties both in achieving in academic success and emotion stability.

### III. MATERIALS AND METHODS

The present investigation was undertaken to find out the prevalence of learning difficulties/disability in primary school children and effects on emotional problems and academic achievement. This chapter is discussed under the following sub headings:

- 3.1 Research Design
- 3.2 Population & sample of the study
- 3.3 Research Tools & Instruments.
- 3.4 Data collection procedure.
- 3.5 Statistical analysis.
- 3.6 Operational Definition.
- 3.7 Hypotheses set for the study.

#### 3.1 RESEARCH DESIGN

An exploratory study on prevalence of learning difficulties/disability in primary school children of English medium school and etiology as well as its influence on emotional problems and academic achievement was undertaken.

#### 3.2 POPULATION & SAMPLE OF THE STUDY

Population of the study consisted of primary school children of third- & fourth- classes studying in English medium schools of Dharwad city.

A preliminary survey was carried out to collect the information regarding the total number of schools with English medium of instruction existing in Dharwad city. There were 9 private schools & one Government school, as per the records of Deputy Director of Public Instruction (D.D.P.I), Dharwad. Approx. 1/3<sup>rd</sup> of the total number of schools (3 schools) were selected. As the data was elicited through teachers reports only classes 3<sup>rd</sup> and 4<sup>th</sup> were considered for the study as a single teacher teaches all subjects who could be able to report about the child accurately but for the 5<sup>th</sup> class different teachers teach different subjects so this class was dropped.

The sample of the study was drawn from two divisions of 3<sup>rd</sup> and 4<sup>th</sup> classes of the three selected schools making a total of 12 divisions. Procedure of selection of the sample is presented in Fig.1. From the selected class, children with less writing errors and with more writing errors were formed into two groups. From each group 10 children were selected. List was corroborated from the respective class teachers' nominations. A total sample of 240 children was selected forming two groups with and without writing difficulties. Out of this, the final sample consisted of 198 as a sample of 42 children could not be included due to incomplete information and failure of returning the forms by parents.

#### 3.3 RESEARCH TOOLS & INSTRUMENTS

Research tools used to conduct the study are listed below:

- 1. Identification of writing difficulties/disability as per the guidelines of NIMHANS tool.
- 2. Questionnaire for Parents to elicit information on their awareness of their child's difficulties, involvement, and encouragement provided to child in academic achievement skills and performance.
- 3. Emotional Problem Scale developed by Prout and Strohmer (1985) - modified.
- 4. Socio-Economic Status Scale, developed by AICRP (CD, 2002).
- 5. Academic performance in final exam.

##### 3.3.1 Description of the tools

1. Identification of writing difficulties/errors- tool developed by the investigator as per the guidelines of NIMHAN's tool. This was used for evaluation of writing errors such as additions, deletions, wrong punctuations, wrong capitals, reversals, inversions etc. (Appendix -1)

##### 3.3.2. Questionnaire for Parents regarding awareness of learning difficulties, encouragement and involvement.

A self developed questionnaire which consisted of Part A & Part B. Part A to elicit the information about the parents' perception of the learning difficulties of child, home learning

environment and etiology of learning difficulties. Auxillary information of scholastic and medical history was also elicited. (Appendix. 2)

The Part B consisted of the questionnaire with respect to two areas of difficulties i.e. attention difficulty with seven statements and academic difficulty with nine statements to be rated by both teachers and parents on a two point scale with the responses as YES/ NO. The summated score depicts the difficulty level. Higher the score greater the difficulty experienced by the child.

### 3.3.3 Emotional Problem Scale

The Emotional Problem Scale developed by Prout and Strohmer (1985) which consisted of 135 statements was modified by deleting items pertaining to heterosexual activity. Modified scale comprised of 120 statements on which teachers rated the identified children with and without writing difficulties on four points anchored as almost never, rarely, occasionally and often, in terms of how often the child demonstrated a variety of problem behaviors. Item scores were combined to yield 11 clinical sub scales, viz, 1. Thought/ Behavior Disorder (TD), 2. Verbal Aggression (VA), 3. Physical Aggression (PA), 4. Non Compliance (NC), 5. Distractibility (DS), 6. Hyperactivity (HY), 7. Somatic Concerns (SC), 8. Anxiety (AN), 9. Depression (DP), 10. Withdrawal (WD) & 11. Low Self- Esteem (SE). These subscales PA + NC + HY + VA were combined to form Externalizing and for Internalizing AN + DP + SE behavior problems. The details of the tool are presented in the tabular form below.

Sl.No.	Sub scales of Emotional Problems	Max. score	Min. Score	Item No.	Total items
1	Thought/Behavior Disorder	45	0	1-15	15
2	Physical Aggression	30	0	16-25	10
3	Non Compliance	45	0	26-40	15
4	Anxiety	33	0	41-51	11
5	Distractibility	30	0	52-61	10
6	Depression	24	0	62-69	8
7	Hyperactivity	30	0	70—79	10
8	Withdrawal	24	0	80-87	8
9	Low Self- Esteem.	42	0	88-101	14
10	Verbal Aggression	21	0	102-108	7
11	Somatic Concerns	36	0	109-120	12
Total					120

3.3.4. These raw scores were converted to standard scores on the basis of the norms deve

### 3.3.5. Socio-Economic Status Inventory

The inventory developed by AICRP (CD., 2002) was used to assess the socio-economic status of the child's family. The items/ parameters considered were family type, family size, and education and occupation of parents.

#### 3.3.4.1 Education of parents

It is the level of educational attainment of parents quantified as given below.

Education level	score
Illiterate	1
Primary	2
High school	3
PUC/ Under graduate	4
Graduate	5
Post Graduate	6

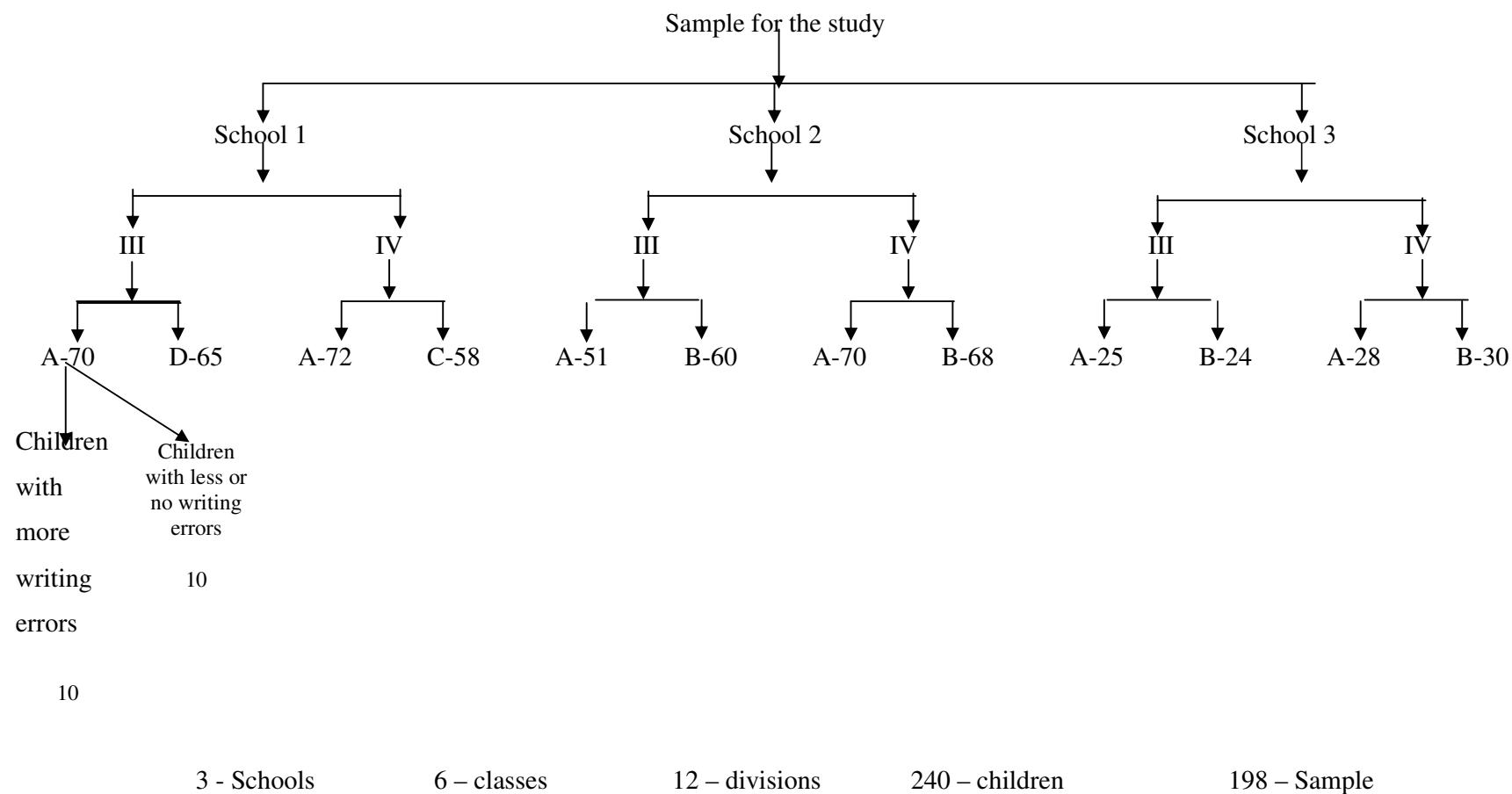


Fig. 1 : Procedure for selection of sample

### 3.3.6. Socio-Economic Status Inventory

The inventory developed by AICRP (CD., 2002) was used to assess the socio-economic status of the child's family. The items/ parameters considered were family type, family size, and education and occupation of parents.

#### 3.3.4.1 Education of parents

It is the level of educational attainment of parents quantified as given below.

Education level	score
Illiterate	1
Primary	2
High school	3
PUC/ Under graduate	4
Graduate	5
Post Graduate	6

#### 3.3.4.2 Occupation of parents

It is the job undertaken by the parents and classified as follows

Occupation level	score
Unemployed	1
Laborer	2
Caste Occupation	3
small business/shop cultivation/ Business/Agriculture	4
Low- paid Government service	5
Professional, Doctors, Engineers	6

#### 3.3.4.3 Family type

It is the composition of the family depending on the structure : nuclear, joint.

Family type	score	Without learning Difficulty (N=88)		With learning Difficulty (N=110)	
		Freq	%	Freq	%
Joint	1	20	22.7	16	14.5
Nuclear	2	68	77.3	94	85.5

#### 3.3.4.4 Family size

It is the composition of the family based on the number of children residing and family member together.

Family size	score	Without learning Difficulty (N=88)		With learning Difficulty (N=110)	
		Freq	%	Freq	%
1-4 small	1	46	52.3	52	47.3
5-8 medium	2	38	43.2	50	45.5
>8 large	3	4	4.5	8	7.3

#### 3.3.4.5 Family income

It is the income of the father, and other members of the family including other sources of income, categorized as low, medium and high as follows.

Family income	Score	Without learning Difficulty (N=88)		With learning Difficulty (N=110)	
		Freq	%	Freq	%
Low 1000-9000	1	58	66.7	64	58.2
Medium 9000-18000	2	20	23.0	32	29.1
High 18000-26000	3	9	10.3	14	12.7

### 3.3.5 Child's characteristics

#### 3.3.5.1 Age

The number of years completed by children as per their birth dates was obtained from school records. Children were by their age as follows.

Age (years)	score	Without learning Difficulty (N=88)		With learning Difficulty (N=110)	
		Freq	%	Freq	%
8	1	13	14.8	14	12.7
9	2	41	46.6	58	52.7
10	3	29	33.0	31	28.2
11	4	5	5.7	5	4.5
12	5	-	-	2	1.8

#### 3.3.5.2. Gender

The children were categorized as boys and girls.

#### 3.3.5.3 Ordinal position of the child

It is the sequence of birth of the child in the family as first born, second born, third born fourth born and fifth born. The categorization & respective scores are given below.

Ordinal position	Score
First born	1
Second born	2
Third born	3
Fourth born	4
Fifth born	5

### Pilot Study

The pilot study was conducted in 3<sup>rd</sup> and 4<sup>th</sup> classes of one English medium school which was not included in the main study. Ten children each with leaning difficulties and without learning difficulties on the basis of number of writing errors as per the Identification tool developed by the investigator was administered and were selected. Selected students were rated for their behavior by teachers using Emotional Problem Scale and their home environment was studied using parent questionnaire. The purpose was

1. Pre testing
2. To familiarize with the administration of the tools.
3. To assess the suitability of items developed for the home learning environment questionnaire.
4. To assess the applicability of the test items of the EPS scale (modified) for the required age range of the selected sample.

The reliability established was 0.94 for EPS and 0.75 for the questionnaire tested through split half reliability.

### 3.4 DATA COLLECTION PROCEDURE.

Consent was obtained from the Head of the institutions and also respective class teachers by approaching and explaining the purpose of the study. Help was solicited from the class teacher throughout study. The students were made to sit comfortably and were requested to write down the dictation of a selected English language text, which was already covered in the class on the given plain writing paper. 15 minutes time was set for the test. An extra time was also given to students who did not finish, which was noted. Papers were collected and corrected for identifying and analyzing their writing errors such as additions, deletions, reversals, substitutions of words, wrong capitals, punctuation, etc., and frequency of making errors in writing the dictated text was noted.

Based on the errors two groups were formed. A sample of 10 children from the two groups from 12 divisions was selected. The identification of children with and without learning was made class/division wise separately. This assessment was also corroborated with teachers' nominations. Through these selected students parents' questionnaire was sent requesting parents to fill up the required information. The respective class teachers were administered Questionnaire-Part as well as the EPS scale for rating behavior of selected 20 children from each class. The assessment was at the end of the academic year to facilitate teachers' rate the children on such typical behavior. As the class teacher had good rapport with of their class children for having rapport for more than 8-10 months, the assessment would be more reliable and accurate. Forms were collected during next visit to the school. Incomplete responses were completed by interviewing the teachers, through observations, and telephonically contacting parents and by personal home visits too to some of the children as the Questionnaire not returned.

### 3.5 STATISTICAL ANALYSIS

#### 1. 't' test

't' test used for the comparison of emotional problems of children with and without learning difficulties with the help of following formula

$$t' = \frac{|\bar{X}_1 - \bar{X}_2|}{\sqrt{S^2 (1/n_1 + 1/n_2)}}$$

Where,

$$S^2 = \frac{\{(n_1-1) - S_1^2 + (n_2 - 1) S_2^2\}}{(n_1 + n_2 - 2)}$$

$\bar{X}_1$  = Mean of the first group

$\bar{X}_2$  = Mean of the second group

$n_1$  = No. of observations in the first group

$n_2$  = No. of observations in the second group

$S_1^2$  = Variance of first group





**Plate 1. Administration of writing tests**

Plate 1. Administration of writing tests



**Plate 2. Students writing test**

Plate 2. Students writing test



**Plate 3. Interviewing the parents**

Plate 3. Interviewing the parents

$S_2^2$  = Variance of second group

$S^2$  = Pooled variance of  $S_1$  and  $S_2$ .

2. Chi square – non parametric test was employed to find out the association between learning difficulties with academic achievement and behavioural problems of primary school children by age, gender,  $\chi^2$  test was applied using the formula

$$\chi^2 = \frac{\sum(O_i - e_i)^2}{e}$$

Where,

$O_i$  = Observed frequency

$e_i$  = expected frequency.

$\chi^2$  values are compared with table values for  $(r - 1) (c - 1)$  degrees of freedom (df) 'r' denoting the number of rows, 'c' denoting number of columns in the contingency table.

3. Modified chi-square

Modified chi-square test of independence was applied to determine the association between dependent and independent variables wherever the frequencies were less than 5 using formula

$$\text{Modified } \chi^2 = \left\{ 1 - \frac{1}{n} (1 - d^{1/2}) \right\} \times \chi^2_{d 0.05}$$

at 5% level.

Where,

$\chi^2_{d 0.05}$  is table  $\chi^2$  value at 'd' degrees of freedom for 5 per cent level significance

$n$  = Grand total

Descriptive analysis in percentages, were used in the analysis of the learning difficulties personal characteristics of the sample.

### 3.6 OPERATIONAL DEFINITION

#### 1. Academic achievement

Academic achievement was determined by computing the average grades of the final grades of previous two semesters. Grades were converted to marks by taking lower level of range.

#### 2. Writing difficulties

Writing errors in terms of spelling and errors of punctuation reversals, additions, omissions, substitutions, wrong capitals, etc., assessed through a writing test using NIMHANS tool for identification of errors.

#### 3. Emotional problems

The teacher ratings of the selected children with and without learning difficulties rated on 120 items with 11 sub scales viz, physical aggression, verbal aggression, distractibility, withdrawal, anxiety, hyperactivity, non compliance, somatic concerns, depression, & low self esteem & further categorized as externalizing and internalizing problems.

##### a. Externalizing problems

Individuals tend to act out their feelings and emotions, verbal threats and physical aggression may be common. These individuals also appear hyperactive and have greater difficulty complying with instructions and directions than their peers. This was assessed by summing, Physical Aggression+ Non Compliance + Hyperactivity + Verbal Aggression

##### b. Internalizing problems

Problems frequently labeled as 'neurotic', characterized by excessive anxiety, depression & feeling of low self-esteem and low self- worth. This was assessed by summing, Anxiety + Depression + Low Self-Esteem.

### 3.7 HYPOTHESES FOR THE STUDY

1. There would be no difference between gender and age on learning difficulties (emotional problems and academic achievement) of primary school children.
2. Learning difficulties are not related to emotional problems and academic achievement of primary school children
3. Learning difficulties are not associated with environmental factors such as change in medium of instruction, pre school education.
- 4.

#### DE-LIMITATIONS

- ❖ The study was restricted to class III and IV. At this stage the errors are discernible as difficulties and disabilities are established. However, screening can be done even at earlier stages as early as grade I and grade II to intervene early to avoid difficulties and to adopt remedial strategies for proper management of learning disabilities.
- ❖ The study attempted in identification of learning disability but with the limitation of not conforming the condition through verification by other screening tools due to the limitation of time and expertise of student researcher. The discrepancy level of children with learning disability was not ascertained by administering tools for assessing I.Q. of children. The study attempted to focus on learning difficulties and screening for L.D. with an assumption that prevalence of L.D. would be to the extent of 5-10 per cent as reported by several studies. The screening criteria were only through writing errors such as reversals, inversion a quick procedure for facilitating the student researcher.
- ❖ The study was limited only to English medium schools and to assessments in writing only. Reading could also be used for screening of learning difficulties and disabilities, but as it was to be administered individually due to the constraints of the student investigator this was dropped.

## IV. RESULTS

The results of the present investigation is presented under the following headings

- 4.1 Characteristics of the sample
- 4.2a. Prevalence of learning difficulties/disability among primary school children.
- 4.2b. Levels of learning difficulties/disability.
- 4.3 Etiological factors of learning difficulties.
- 4.4 Consequences of learning difficulties on primary school children.
- 4.4.1 Emotional problems of children.
- 4.4.2 Academic achievement of children.

### 4.1 CHARACTERISTICS OF THE SAMPLE

The characteristics of the sample are presented in Table 1a. Children between the age ranges of 8-11 years of English medium primary school constituted the sample. About 56.1 per cent of children were from class III and 43.9 per cent of children were from class IV.

It is seen from the table that about 50 per cent of children fell in the age group of 9 years followed by 10 years (30.3%). while 13.6 per cent of children were of 8 years and 5.1 per cent were 11 years of age. Only 1 per cent of children were 12 years of age. Boys constituted 54.0 per cent and girls 46 per cent of the sample.

Majority (48%) of children were first born, followed by 39.9 per cent of children who were second born. Third born and 4<sup>th</sup> born children constituted around 10.6 per cent and 2.0 per cent respectively and one child was 5<sup>th</sup> born (last born).

In case of income category, majority (59.1%) belonged to low income and 27.8 per cent of children were of medium income group, while 13.1 per cent of children were of high income group.

Majority (81.8%) of the children hailed from nuclear families as compared to joint families (18.2%). In concern to family size, about children 50 per cent were from small size, 44.4 per cent from medium sized families and only 6.1 per cent were from large sized families.

Majority of children (79.3%) were of Hindu religion followed by Muslims (16.7 %) and Christian (4.0 %). About 68.0 per cent of children belonged to medium socio-economic and 21.2 per cent of children had high socio-economic status. Only 10.6 per cent of children were from low socio-economic status.

About parents' education (table 1b), 39.9 per cent of fathers and 31.8 per cent of mothers were graduates. Post graduate degree was completed by 17.7 per cent of fathers and only 4.5 per cent mothers, whereas 16.7 per cent of the fathers and 24.2 per cent of mothers had their education up to high school. None of the fathers were illiterate as against 0.5 per cent mothers. Few fathers (9.1%) and mothers (4.0%) were with primary school education.

Regarding occupation, 37.9 per cent of fathers were occupied in high paid government jobs or were in professionals like doctors, engineers etc. while 24.7 per cent were either elementary/high school teachers or salaried jobs against only 0.5 per cent of mothers. About 82.8 per cent of mothers were housewives and 16.2 per cent were engaged in high paid government jobs or professionals. About 32.0 per cent of the fathers were cultivators or had their own shops or business and 5.1 per cent of fathers were occupied in caste occupation.

### 4.2 PREVALENCE OF LEARNING DIFFICULTIES/DISABILITY AMONG PRIMARY SCHOOL CHILDREN

- 4.2i. School wise
- 4.2ii. Class wise/Age wise
- 4.3. Gender wise

Table 2 presents the prevalence of learning difficulties/disability in primary school children. School 1 had lower level of prevalence of learning difficulties/disability than other two schools. Among 53.33 per cent boys, 23.61 per cent had learning difficulties whereas the prevalence of learning difficulties was as low as 4.76 per cent for 46.66 per cent of girls' strength in class. Same trend was observed in other divisions of the class III. But in case of children studying in class IV 24.19 per cent boys among 44.68 per cent boys with learning difficulties and 12.82 per cent girls among 55.71 per cent of girls had learning difficulties/disability. School 2 had 31.03 per cent in class III and 27.69 per cent in Class IV.

Table.1 Characteristics of the children and parents selected for the study

a. Characteristics of the children

Sl. No.	Characteristics	Category	Frequency	Percentage
1.	Class	III	111	56.1
		IV	87	43.9
2.	Age	8	27	13.6
		9	99	50.0
		10	60	30.3
		11	10	5.1
		12	2	1.0
3.	Gender	Boys	107	54.0
		Girls	91	46.0
4.	Ordinal position	1	95	48.0
		2	77	39.9
		3	21	10.6
		4	4	2.0
		5	1	0.5
5.	Income	Low	81	40.9
		Medium	68	34.3
		High	49	24.7
6.	Type of family	Joint	36	18.2
		Nuclear	162	81.8
7.	Family size 1-4 5-8 >8	Small	98	49.5
		Medium	88	44.4
		Large	12	6.1
8.	SES	Low	15	7.6
		Medium	136	68.7
		High	47	23.7
9.	Religion	Hindu	157	79.3
		Muslim	33	16.7
		Christian	8	4.0

b. Parents characteristics of the sample

Sl. No.	Characteristics	Category	Father		Mother	
			Freq.	%	Freq.	%
9.	Education	Illiterate	-	-	1	0.5
		Primary	8	4.0	18	9.1
		High school	33	16.7	48	24.2
		PUC/under graduate	42	21.2	59	29.8
		Graduate	79	39.9	63	31.8
		Post-graduate	35	17.7	9	4.5
10.	Occupation	Unemployed	-	-	164	82.8
		Labourer	-	-	-	-
		Caste occupation	-	-	1	0.5
		Small business/shop/ agriculture	63	31.8	-	-
		Low paid government service	49	24.7	1	0.5
		Profession, doctors, engineers	75	37.9	32	16.2

Among boys with learning difficulties as against 11.32 per cent in Class III, 8.21 per cent in class IV girls had learning difficulties/disability.

School 3 had relatively high degree of prevalence of learning difficulties. Among boys in class III 55.55 per cent had learning difficulties and about 56 per cent of boys in class IV against only 13.79 per cent prevalence of learning difficulties among girls in class IV and about 28 per cent in class III.

The class wise prevalence of learning difficulties is presented in Table 3, a higher number of boys in class IV (22.03%) had learning difficulties than class III (20.53%). Among girls of class IV 13.04 per cent of the prevalence of learning difficulties was more than class III (9.55%). In sum about 37.09 per cent of learning difficulties are prevalent in class IV than class III (22.0 %).

Gender-wise prevalence of learning difficulties is presented in Table 3 which shows that boys had 31.39 per cent of learning difficulties while 12.11 per cent of girls had learning difficulties among 49.75 per cent of boys and 52.12 per cent of girls of the total sample.

In total, it was found that learning difficulties was prevalent among 21.23 per cent of children irrespective of gender.

## 4.2a Association between levels of learning difficulties

### 4.2.1. Class/age

### 4.2.2 Gender

It is seen from Table 4 that there is significant association between gender and learning difficulties. Low level of learning difficulties were observed in 65.9 per cent of girls as compared to 28.0 per cent of boys. More boys had medium (43.9) and high (28.0%) level of learning difficulties than girls with medium (24.2%) and only 9.9 per cent of high levels of

Table 2 Prevalence of learning difficulties among primary school children class &amp; school

Sl. No.	Name of school	With learning difficulty			Strength of class		
		Boys	Girls	Total	Boys	Girls	Total
1.	School 1						
	III A	10	2	12	40	30	70
		25.0	6.66	17.14	57.14	42.85	100.0
	III D	7	1	8	32	33	65
		21.87	3.03	12.30	49.2	50.70	100.0
	Total	17	3	20	72	63	135
		23.61	4.76	14.81	53.33	46.66	100.0
	IV A	6	7	11	30	42	72
		20.0	16.66	15.27	41.6	58.30	100.0
	IV C	9	3	12	32	38	58
		28.12	7.89	20.68	55.17	65.51	100.0
	Total	15	10	23	62	78	140
		24.19	12.82	16.42	44.28	55.71	100.0
2.	School 2						
	III A	10	2	12	29	22	51
		34.48	9.09	23.52	56.86	43.13	100.0
	III B	8	4	12	29	31	60
		27.58	12.90	20.0	48.33	51.66	100.0
	Total	18	6	24	58	53	111
		31.03	11.32	21.62	52.20	47.74	100.0
	IV A	11	4	15	34	36	70
		32.3	11.1	21.4	48.57	51.42	100.0
	IV B	7	2	9	31	37	68
		22.58	5.40	13.23	45.58	54.41	100.0
	Total	18	6	24	65	73	138
		27.69	8.21	17.39	47.10	52.89	100.0
3.	School 3						
	III A	7	2	9	13	12	25
		53.84	16.6	36.0	52.0	48.0	100.30
	III B	8	4	12	14	10	24
		57.11	40.0	50.0	58.3	41.6	100.0
	Total	15	6	21	27	22	49
		55.55	27.27	42.85	55.10	44.82	100.0
	IV A	7	3	10	11	17	28
		63.63	17.64	35.7	39.28	60.71	100.0
	IV B	7	5	12	14	16	30
		22.58	31.5	40.0	46.60	53.3	100.0
	Total	14	8	22	25	38	58
		56.00	13.79	38.00	43.10	65.51	100.0

Table 3. Gender wise prevalence of learning difficulties in class III & IV

Class	With learning difficulty			Class strength		
	Boys	Girls	Total	Boys	Girls	Total
III	50	15	65	157	138	295
	31.84	9.55	22.03	53.22	46.70	100.0
IV	47	24	69	152	186	326
	30.92	12.9	37.09	28.89	57.05	100.0
Total	97	39	134	309	324	621
	31.39	12.03	21.57	49.75	52.12	100.0

learning difficulties. On  $\chi^2$  analysis significant association between gender and the levels of learning difficulties was observed indicating that higher percentage of boys had higher level of learning difficulties than girls.

#### 4.2b Comparison of writing errors of children with and without learning difficulties by class

Children in class III in normal group had low level of writing errors and only 10.0 per cent had medium level of errors as compared to children with learning difficulties where in 60.7 per cent of class III and 46.9 per cent from class IV were with medium level of writing errors (table 5). About 30 per cent showed high level of errors as against children of normal group who did not show high level of errors at all. There is no significant difference between classes III and IV with respect to levels of learning difficulties but there is significant association between writing errors of children with and without learning difficulties.

#### 4.2c Comparison of levels of learning difficulties of children with and without learning difficulties by age

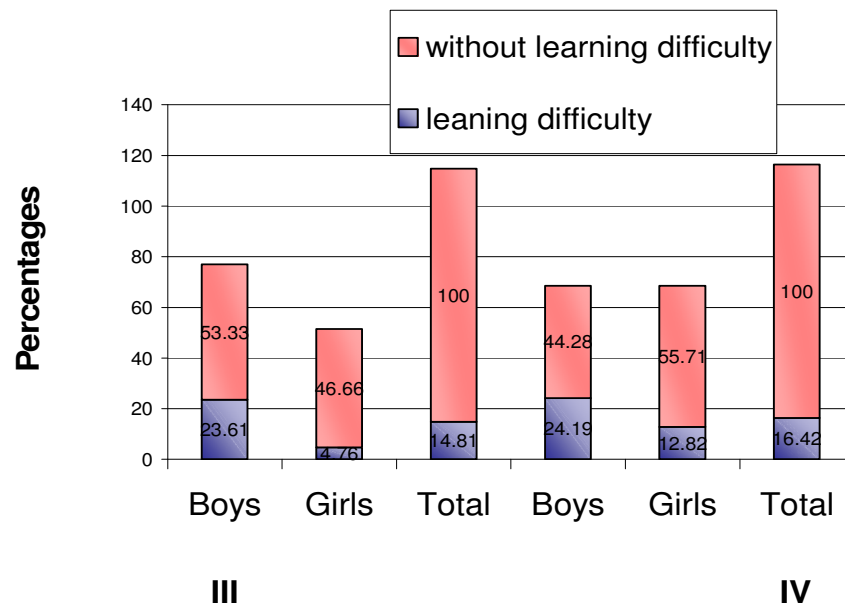
From Table 6, it is seen that children of 9 years without learning difficulties had low level of errors with respect to writing (85.4%). Among 8 years all children had low level of errors (100.0%) and 96.6 per cent did not show high levels of errors as against children with learning difficulties. Children with 9 years of age had medium (51.7%) and high (34.5%) levels of difficulties and only 13.8 per cent showed low levels of difficulties. About 40 per cent each of 11 years had medium and high levels of difficulties. There was no significant difference in children with and without learning difficulties levels of difficulties of in all ages. Children of all ages were similar levels of errors.

#### 4.2d Writing errors of children with learning disabilities

Writing errors committed by children with learning difficulties and learning disabilities is presented in Table 7. Children with learning disability had committed 96 per cent of additions and reversals. About 92 per cent of writing errors were in terms of omissions whereas 86 per cent of children committed substitutions, which was not found in the writing errors of children with learning difficulty. Punctuations, wrong capitals, wrong spacing were the most common errors in the writings of children with learning difficulties.

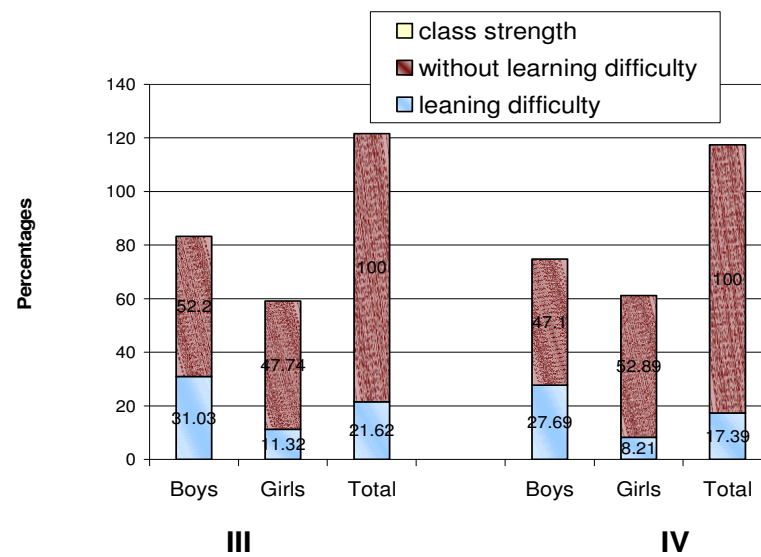
From table 7a, it is clear that learning disability was more prevalent more in boys (6.14%) than in girls (1.5%). And it was more prevalent in children of class IV (4.9%) as against 2.71 per cent in children of class III (table 7b), whereas class III children had more (19 %) learning difficulties than children in class IV (16%). In sum, about 4 per cent of prevalence of learning disability was found in selected schools as against 17 per cent of learning difficulties (21%).





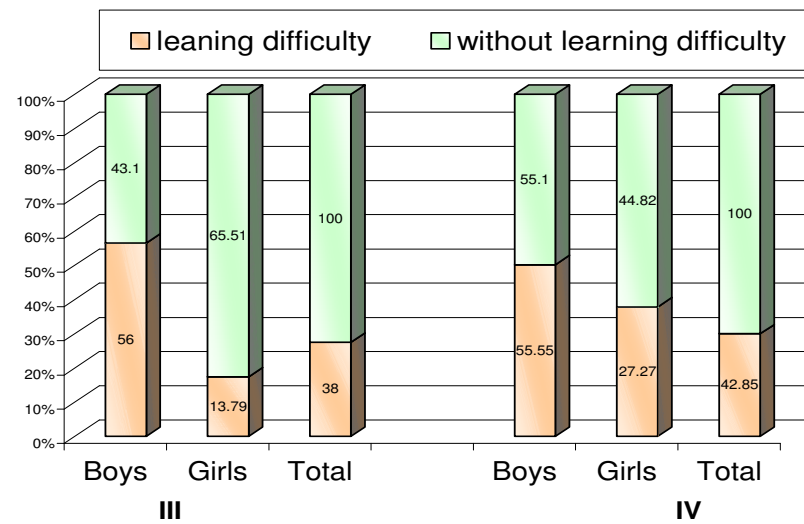
**Fig: 2 Prevalence of learning difficulites/disability- school 1**

Fig:2 Prevalence of learning difficulties /disability-school 1



**Fig:3 Prevalence of learning difficulties/disability-school2**

Fig: 3 Prevalence of learning difficulties/disability-school2



**Fig:4 Prevalence of learning difficulties/disability-school3**

Fig:4 Prevalence of learning difficulties/disability-school3

Table 4. Association between gender and levels of learning difficulties

Learning difficulty	Gender			$\chi^2$
	Boys	Girls	Total	
Low	30 (28.0)	60 (65.9)	90 (45.4)	29.26**
Medium	47 (43.9)	22 (24.2)	69 (34.8)	
High	30 (28.0)	9 (9.9)	39 (19.6)	
Total	107 (100.0)	91 (100.0)	198 (100.0)	

Note : Figures in parentheses indicate percentages.

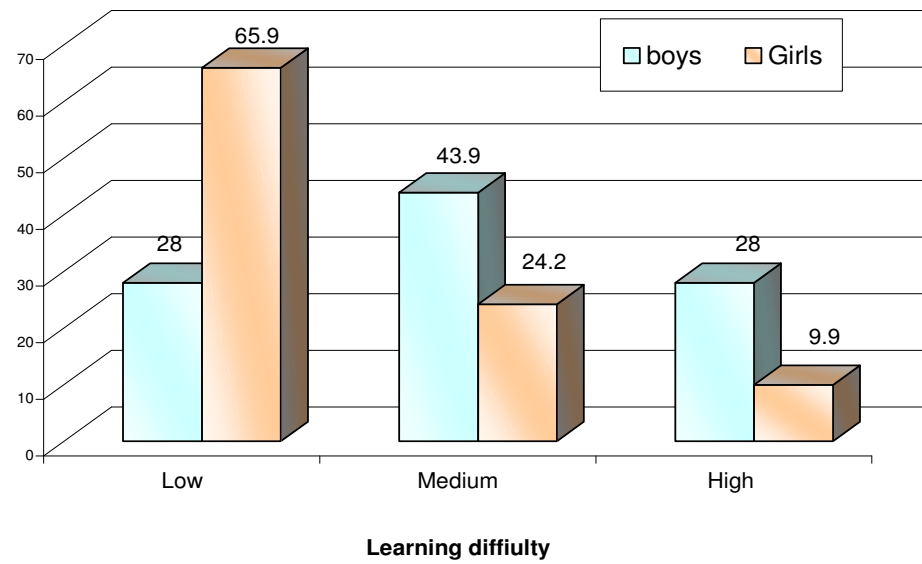
\*\* Significant at 0.01 level.

Table 5. Comparison of writing errors between children with and without learning difficulties

Difficulty level	Without learning difficulty			With Learning difficulty			Total	$\chi^2$
	III	IV	Total	III	IV	Total		
Low	45 (90.0)	34 (89.5)	79 (89.7)	4 (6.6)	7 (14.3)	11 (10.3)	90.00 (45.5)	127.19**
Medium	5 (10.0)	4 (10.5)	9 (10.2)	37 (60.7)	23 (46.9)	60 (54.5)	69.00 (34.8)	
High	0 (0.0)	0 (0.0)	0 (0.0)	20 (32.8)	19 (38.8)	39 (35.4)	39.00 (19.7)	
Total	50 (100.0)	38 (100.0)	88 (100.0)	61 (100.0)	49 (100.0)	110 (100.0)	198.0 (100.0)	
$\chi^2$	0.07 <sup>NS</sup>			2.835 <sup>NS</sup>				

NS –Non Significant

\*\* Significant at .001 level



**Fig. 6. Level of learning difficulties by gender**

Fig. 6. Level of learning difficulties by gender

Table 6. Comparison of writing errors between children with and without difficulties by age

(N=198)

Age	Without learning difficulty			Total	With learning difficulty				Total
	Writing errors				Writing errors				
	Low	Medium	High		Low	Medium	High		
8	13 (100.00)	0 (0.0)	0 (0.0)	13 (100.0)	1 (7.1)	8 (57.1)	5 (35.7)	14 (100.0)	27.0 (100.0)
9	35 (85.40)	6 (14.60)	0 (0.0)	41 (100.0)	8 (13.8)	30 (51.7)	20 (34.5)	58 (100.0)	99 (100.0)
10	28 (96.60)	1 (3.40)	0 (0.0)	29 (100.0)	1 (3.2)	20 (64.5)	10 (32.3)	31 (100.0)	60 (100.0)
11	3 (60.00)	2 (40.00)	0 (0.0)	5 (100.0)	1 (20.0)	2 (40.0)	2 (40.0)	5 (100.0)	10 (100.0)
Total	79 (89.77)	9 (10.20)	0 (0.0)	88 (100.0)	11 (10.0)	60 (54.5)	37 (33.6)	110 (100.0)	198 (100.0)

Figures in parentheses indicate percentages.

Table 7. Writing errors of children with learning disabilities

(N = 110)

Sl. No.	Writing errors	Learning disability (absent)	Learning difficulty (present)
1.	Reversals	18	92
2.	Inversions	14	96
3.	Substitution	24	86
4.	Omissions	16	94
5.	Additions	18	92

Table 7a. Prevalence of learning disability among primary school children by gender

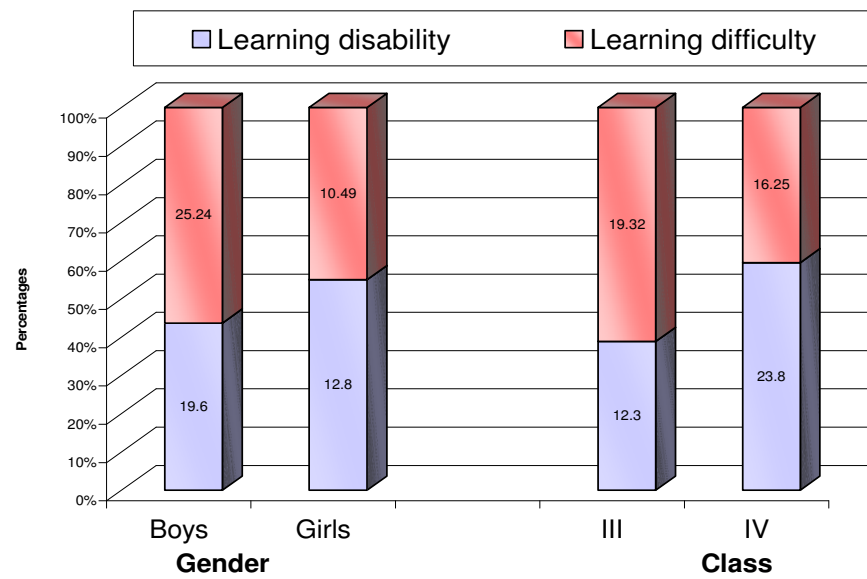
	Learning disability	Learning difficulty	% to total class strength
Boys	19 (6.14)	78 (25.24)	309
Girls	05 (1.5)	34 (10.49)	324
Total	24 (3.86)	110 (17.71)	621

Note: Figures in parentheses indicate percentages

Table 7b. Prevalence of learning disability among primary school children by class

	Learning disability	Learning difficulty	% to total class strength
III	8 (2.71)	57 (19.32)	295
IV	16 (4.9)	53 (16.25)	326
Total	24 (3.86)	110 (17.71)	621

Note: Figures in parentheses indicate percentages



**Fig 5. : Prevalence of learning difficulites/disability**

Fig.5. Prevalence of learning difficulties/disability





Phy No.

I blo my mother.  
 it is blo in morning full stop I  
 I blo kept pot full stop  
 I have to kept op see  
 I have to beent school  
 it do not cloud?  
 it make be cloud in uned full stop it more Rain  
 full stop  
 have it the amber?  
 I tose letter  
 it i the dothes?  
 use have se- peipol talk sun shine, cloud?  
 This beke Rain snow in fog so on full stop  
 This Pactice more thong for day today in pots  
 out howver full stop This is callor & water full stop

**Writing errors of a boy student**

Writing errors of a boy student

Dinosaur my Good Friend

1) Givija was tried  
 2) she went off to sleep as soon as her head touched pillow.  
 3) the boom bell rang. When she opened she was surprised see  
 a huge creature standing outside her door. Givija asked who  
 was you? "Kratux" said, I am a binosaur and my name  
 is stegosaurus the bonosaur then took Givija to a small  
 park where she met their cousins. They where am any life of  
 Dinosaur some small some huge not all Dinosaur are terrible.  
 some are gentle eaters but they all had sharp teeth and big jaws.  
 Givija tried to climb on to the back back of one. She fell of  
 his back. She awoke on up and she found her self on the floor.

**Writing errors of a girl student**

**Plate 6. Comparison of writing errors of boys and girls**

Writing errors of a girl student

**Plate 6. Comparison of writing errors of boys and girls**

### 4.3 ETIOLOGICAL FACTORS

4.3.1 Pre-school history: Comparison between children with and without learning difficulties

4.3.2 Medical history : Comparison between children with and without learning difficulties.

4.3.3 Parental involvement : Comparison between children with and without learning difficulties

a. Activities at home

b. Co-curricular activities

4.3.4 Classroom learning behaviour comparison between children with and without learning difficulties.

#### 4.3.1a Age at admission to Pre School

From the table 8, it is observed that majority of children who did not exhibit writing errors (45.5%) were admitted in pre-school at the age of 4 years, Whereas 52.7 per cent of children were admitted at 3 years itself against 39.8 per cent. About 4.5 per cent of children got admitted at 2 years and 10.2 per cent of children were admitted quite late at 5 years. While among children who had exhibited writing errors majority were at 3 years (52.7%) followed by 40.0 per cent at 4 years and only 3.6 per cent at 2 & 5 years. On statistical analysis there was no difference between children with and without learning difficulties with respect to admission to the pre-school was observed.

#### 4.3.1b Number of years in pre school

It is also seen from the same table (8), that majority of children (65.5%) spent maximum of 3 years in pre-school followed by 27.3 per cent of children who were in preschool for 4 years. Very few were either a year or 4 years in pre-school education among both the groups of children. On statistical analysis no association was observed between numbers of years of pre schooling on absence of learning difficulties.

#### 4.3.1c Change in medium of instruction

In pre school

There was significant difference between children with and without learning difficulties in medium of instruction in preschool as well as language spoken at home (Table 9). 24.5 per cent of children with learning difficulty had their pre-school education with Kannada medium of instruction and 75.5 per cent of them were from English medium. As against 88.6 per cent with English medium of instruction and only 11.4 per cent of children without learning difficulties had their pre-school education with Kannada medium of instruction. On statistical analysis, significant association was observed between and medium of instruction at pre school education.

Language spoken at home

Majority of children (61.8 %, 75.5 %) with and without learning difficulty spoke Kannada language at home followed by other languages (Urdu, Konkani, Lamani, Gujarati) in homes of children with learning difficulties (20.0%) and without (11.4%) learning difficulties (table 9). Also there were homes where mixed languages were spoken like Hindi-Urdu-English, Hindi-Kannada-Marathi-English, Hindi-English-Marathi were among 8.2 per cent and 9.1 per cent of children with and without learning difficulties respectively. However on chi square analysis it was observed that no significant association was observed between language spoken at home and level of difficulty.

### 4.3.2 Medical history of children with and without learning difficulties

Table 10 reveals that about 5 per cent of mothers of children with and without learning difficulties reported delivery complications while rest (94.4%) had normal delivery without any medical complications. Hence, no significant difference was found with respect to birth complications of children with and without learning difficulties.

The same table also indicates no difference in difficulties between children from consanguineous & non consanguineous marriages. About 92 per cent reported non-

consanguine marriage and about 8-13 per cent of children were born to parents with consanguine marriage.  $\chi^2$  analysis showed no association between consanguinity and learning difficulties.

Table 8. Comparison of pre-school history of children with and without learning difficulties

Sl. No.	Years	Without learning difficulty N=88		With Learning difficulty N=110		$\chi^2$
		Freq.	%	Freq.	%	
1	Age at admission to pre school					
	2	4	4.5	4	3.6	5.42 <sup>NS</sup>
	3	35	39.8	58	52.7	
	4	40	45.5	44	40.0	
	5	9	10.2	44	3.6	
2	No. of years in pre-school					
	1	11	12.5	4	3.6	5.837 NS
	2	55	62.5	72	65.5	
	3	20	22.7	30	27.3	
	4	2	2.3	4	3.6	

Note: NS –Non Significant

Table 9. Comparison of children with and without learning difficulties in change in medium of instruction

	Without learning difficulty		With Learning difficulty		$\chi^2$
	Freq.	%	Freq.	%	
I. Medium of instruction					
English -no change	78	88.6	83	75.5	5.59*
Kannada -change	10	11.4	27	24.5	
II. Language spoken at home					
English	1	1.1	3	2.7	5.121 <sup>NS</sup>
Kannada	62	70.5	68	61.8	
Marathi	4	4.5	2	1.8	
Hindi	3	3.4	6	5.5	
Others	10	11.4	22	20.2	
Multi lingual	8	9.1	9	8.2	

\* Significant at 0.05 level

NS –Non Significant

Also, no disability was reported in any of the families of children with and without learning difficulties except one child who was born in a family with a history of mental retardation.

#### 4.3.3i Parental involvement among children with and without learning difficulties

No significant difference was found between the parental involvement but with time spent by parents in coaching children in their studies (table 11). There was significant difference between the two groups of children where in a slightly higher percentage of parents spent relatively higher time with children with learning difficulties. 59.1 per cent of parents spent 2-3hrs per day with children who did not have learning difficulties as against 37.3 per cent. On the other hand 20 per cent of parents of children with learning difficulty spent 3-4 hrs against 22.7 per cent of parents of children without learning difficulties.

It is observed from the table 11 that the majority of children (43%) were coached by both father and mother in their studies while around 40 per cent of children were helped by their mothers alone in their studies against 17 per cent fathers.

The time spent pattern was significantly different for both the parents of children with and without learning difficulties. It is found that about 20 per cent of spent time around 3-4 hours for children with learning difficulties as compared to 11.4 per cent of parents of children without learning difficulties. Also 4-5 hours were spent spared by 6.4 per cent of parents as against 1.1 per cent parents of children with learning difficulties. Whereas maximum of hours were given by parents (5.7%) of children without learning difficulties. And for almost same trend among parents of children with and without learning difficulties was followed in spending time between the ranges of 1-4 hours.

Supervising was another aspect of parental involvement which is presented in the same table (11). Results revealed that majority of parents (50%) restricted themselves to supervising homework activities. About 25 per cent of parents took interest in revising and preparation during examination while (20%) no learning difficulties and 16.4 per cent with learning difficulties) extended their help by providing extra reading material apart from other activities. 8 per cent of parents had gone beyond in providing facilities and assistance like computers, educational games etc.

#### 4.3.3.ii School visits

Table 12, reveals that about 27 per cent of parents of children with learning difficulty reported that they rarely visited school, while majority of parents of (51.8%) visited school weekly. Only 1.8 per cent of parents visited daily. Parents of children without learning difficulties visited school in a similar trend. Further, statistically no significant association was found between parents' visit to school and learning difficulties.

#### 4.3.3a Activities at home

Children with and without learning difficulties did not differ in playing video / computer games (table 13). Majority (80%) of them restricted themselves to an hour or less. Whereas more children with learning difficulties (14.5%) against 8.0 per cent of children without learning difficulties played videogames for 2-3 hours and 0.9 per cent spent maximum time of 3-4 hours in playing videogames.

##### TV watching

About 78.4 per cent of children without learning difficulty watched TV every day for an hour or less as against 35.5% per cent of children with learning difficulties. Children with learning difficulties (50.9%) watched TV for 1-2 hours daily, as against 18.2 per cent of children without learning difficulties for 2-3 hrs, whereas 10.9 per cent of children without learning difficulties watched TV for 1-2 hrs as against 50.9 per cent of children with learning difficulties.

##### Reading activity

Children with and without learning difficulty significantly differ in their reading activity. Majority (97.7 %) of children without learning difficulty spent less than an hour whereas only 3.4 per cent had spent more than an hour against 67.3 per cent of children with learning

difficulty who spent less than an hour for reading followed by 13.6 per cent for 2-3 hours & 1.8 per cent for 2-3 hrs. relatively more time was spent by children with learning difficulty than their peers.

Writing activity

From the same table it is also observed that there is significant difference between children with and without leaning difficulty in time spent pattern for writing practices which

Table 10. Medical history of children with and without learning difficulties

Sl. No.	Medical	Without learning difficulty		With learning difficulty		total	$\chi^2$
		Freq.	%	Freq.	%		
A	Delivery complications	5	5.7	5	4.5	10 (5.05)	0.132 <sup>NS</sup>
	No complications	83	94.3	105	95.5	188 (94.4)	
B	Consanguinity	7	8.0	14	12.7	21 (10.6)	1.175 <sup>NS</sup>
	No consanguinity	81	92.0	96	87.3	97 (48.9)	
C	Family history of disability	-	-	1	0.9	1 (0.9)	0.80 <sup>NS</sup>
	No disability	88	100.0	109	99.1	109 (99.1)	

NS –Non Significant

Table 11. Comparison of parental involvement in child's learning activities for children with and without learning difficulties

Sl. No.	Parental involvement	No learning difficulty		Learning difficulty		$\chi^2$
		Freq. N=88	%	Freq. N=110	%	
1.	Coaching					1.32 <sup>NS</sup>
	Mother	35	39.7	45	40.9	
	Father	15	17.0	18	16.4	
	Both	38	43.2	47	42.7	
2.	Time spent(hrs)					14.38*
	0-1	1	1.1	-	-	
	1-2	15	17.0	17	15.5	
	2-3	52	59.1	41	37.3	
	3-4	20	22.7	52	47.3	
3.	Supervising					1.55 <sup>NS</sup>
	1 Home work	39	55	55	50.0	
	2 Revision	24	28	28	25.5	
	3 Extra reading materials	18	18	18	16.4	
	4 Advance learning through computer	7	9	9	8.2	

\* Significant at 0.05 level of probability

NS –Non Significant



Table 12. School visits by parents.

Sl. No.	Parental involvement	No learning difficulty N=88		Learning difficulty N=110	
		Freq.	%	Freq.	%
1	Rarely	24	30	30	27.3
2	Monthly	49	57	57	51.8
3	Weekly	14	21	21	19.1
4	Daily	1	2	2	1.8

interfered with completion of homework. As majority 92 per cent of children without learning difficulties 67.3 per cent of children with learning difficulties engaged themselves in writing activity for less than one hr while others 28.2 per cent spent time of 1-2hrs/day & 3.6 per cent for 2-3hrs.

Playing

Majority (58.9 %) of children played for less than one hour as against 33.6 per cent of children with learning difficulties while more number of children with learning difficulties played daily for 1-5rs than children without difficulties. hence significant association was found between playing and learning difficulty.

#### 4.3.3b Extra curricular activities

Majority (90%) of children with learning difficulties had not gone for any summer classes but for 8-9 per cent of children who attended summer classes, against 70 per cent of children without leaning difficulties who engaged themselves in learning throughout their summer vacations. In concern to tuition classes 35 per cent of children with learning difficulty had gone for tuitions as compared to 40 per cent of children without learning difficulty. Only few children had their interest in learning skills other than academic like music, dance, etc.,(table 14).

#### 4.3.3d Parental satisfaction of children with and without learning difficulties

From Table 15, about 44.3 per cent of parents whose children did not have learning difficulty rated excellent academic performance against 13.0 per cent of parents of other group of children. A higher percentage of parents 34.5per cent and 48 per cent had rated as average and good respectively as compared to parents of children without leaning difficulties who rated their children's academic performance as average (13.6%) and good (42.0%). Very few (.9 %) parents were not happy with the child's performance.

Hence, significant association was observed between parents' level of satisfaction and leaning difficulties, indicating parents' awareness about children's abilities and difficulties

### 4.3.4 Learning behaviour

Children with and without learning difficulties differ significantly in their learning behaviour in classroom situation (table 16). Children without learning difficulty 85.2 per cent asked questions 87.5 per cent readily answered to questions and 71.6 per cent attentively wrote notes in the classroom as against 92.7 per cent, 97.3 per cent and 99.1 per cent of

Table 13. Comparison of activities at home among children with and without learning difficulties

Sl. No.	Activities	Hrs Per Day	Without learning difficulty N=88		With Learning difficulty N=110		$\chi^2$
			Freq.	%	Freq.	%	
1.	Videogame	<1	80	90.9	88	80.0	5.189 <sup>NS</sup>
		1-2	7	8.0	16	14.5	
		2-3	1	1.1	5	4.5	
		3-4	-	-	1	0.9	
2.	TV watching hours	<1	69	78.4	39	35.5	36.96 <sup>**</sup>
		1-2	16	18.2	56	50.9	
		2-3	3	3.4	12	10.9	
		3-4	-	-	3	2.7	
3.	Reading activity	<1	86	97.7	93	84.5	9.8 <sup>*</sup>
		1-2	2	2.3	15	13.6	
		2-3	-	-	2	1.8	
4.	Writing activity	<1	81	92.0	74	67.3	17.7 <sup>**</sup>
		1-2	6	6.78	36	28.2	
		2-3	1	1.1	4	3.6	
		3-4	-	-	1	0.9	
5.	Painting	0-1	1	1.1	-	-	6.98 <sup>*</sup>
		1-2	87	98.9	103	93.6	
		2-3	-	-	7	6.4	
6.	Playing	<1	52	58.9	37	33.6	15.23 <sup>*</sup>
		1-2	31	35.2	49	49.5	
		2-3	5	5.7	17	15.5	
		3-4	1	1.1	5	4.5	
		4-5	-	-	1	0.9	

\* Significant at 0.05 level

\*\* Significant at 0.01 level

NS not significant

Table 14. Comparison of co-curricular activities of children with and without learning difficulties

Sl. No.	Classes	No learning difficulty		Learning difficulty		$\chi^2$
		Freq.	%	Freq.	%	
1.	Summer classes					11.36**
	No	64	72.7	100	90.9	
	Yes	24	27.3	10	9.1	
2.	Computer classes					0.016 <sup>NS</sup>
	No	82	93.2	103	93.6	
	Yes	6	6.8	7	6.4	
3.	Tuition classes					1.00 <sup>NS</sup>
	No	49	55.7	69	62.7	
	Yes	39	44.3	41	37.3	
4.	Dance/Music class					4.5*
	No	73	83.0	102	92.7	
	Yes	15	17.0	8	7.3	

\* Significant at 0.05 level

\*\* Significant at 0.01 level

NS Non Significant

children who did not ask questions, neither answered questions asked by teacher nor attentively taken down the notes in the classroom. On statistical analysis significant association was observed between learning behavior in class room situation and learning difficulty.

#### 4.4 CONSEQUENCES OF LEARNING DIFFICULTIES AMONG PRIMARY SCHOOL CHILDREN

4.4.1 By gender

4.4.2 class/Age

4.4.3. Association between gender and learning difficulties

##### 4.4a Comparison of status of 11 emotional problems among children with and without learning difficulties

Tables 17 a & b, depicts mean and SD of 11 emotional problems of children with and without learning difficulties. In all the problems the mean values of emotional problems of children with learning difficulties was higher than scores of children without learning difficulties i.e. on thought disorder, physical aggression, non compliance, anxiety, distractibility, depression, hyperactivity, withdrawal, low self esteem, verbal aggression, somatic concerns as well as on total of externalizing and internalizing problems.

Further, on statistical analysis significant differences were observed between children with and without learning difficulties with respect to all 11 subscales of emotional problems and on internalizing and externalizing problem behaviour as well.

Table 15. Level of parents' satisfaction regarding child's school performance

Sl. No.	Parent's ratings	Without learning difficulty		With Learning difficulty		$\chi^2$
		Freq.	%	Freq.	%	
I	Very poor	0	0	1	0.9	33.33**
	Poor	0	0	5	4.5	
	Average	12	13.6	38	34.5	
	Good	37	42.0	53	48.2	
	Excellent	39	44.3	11.8	13.0	
II	Not satisfied	5	5.7	49	44.5	
	Satisfied	83	94.3	61	55.5	

NS – Non significant

\* Significant at 0.05 level

\*\* Significant at 0.01 level

Table 16 : Comparison of class room learning behaviour of children with and without learning difficulties

Learning behaviour	Without learning difficulty				With Learning difficulty				$\chi^2$
	Yes		No		Yes		No		
	F	%	F	%	F	%	F	%	
Ask questions	75	85.2	13	14.8	8	7.3	102	92.7	122.02**
Answer questions	77	87.5	11	12.5	3	2.7	107	97.3	145.90**
Taking notes attentively	63	71.6	25	28.4	1	0.9	109	99.1	111.65**

#### 4.4.1 Status of emotional problems in children with and without learning difficulties by gender

Table 18, reveals that majority of boys (76.7 %) and girls (66.1 %) without learning difficulties had low level, and only 23.3 per cent of boys and 33.9 per cent of girls had medium level of internalizing problems and about 80.0 per cent of children had low level of externalizing problems. No children without learning difficulties irrespective of gender had high level of emotional problems. Whereas majority of children had medium level of internalizing (boys with 50.8 % and girls with 57.7%) and externalizing problems (boys with 50.8 % and girls with 78.8%). And about 33.8 per cent of boys and 40.4 per cent of girls had high level of internalizing problems and 24.6 per cent of boys and only 11.5 per cent of girls had high level of externalizing problems. It was also observed that boys had more of externalizing problems as compared to girls with more of internalizing problems.

Hence, there was significant association was found between children with and without learning difficulties on levels of difficulties and levels of emotional problems.

#### 4.4.2 Association between learning difficulties and levels of emotional problems by class

There was significant difference between children with and without learning difficulties with respect to externalizing and internalizing problems (table 19) irrespective of class.

But majority of children without learning difficulties possessed low level (70 %) of internalizing and about 80.0 per cent externalizing problems irrespective of class as against 9 per cent of internalizing and about 15 per cent (class IV) and 19.7 per cent (class III) of externalizing problems in children with learning difficulties. And few children without learning difficulties/disability had internalizing (30 %) and externalizing (20 %) problems. Whereas majority of children (52-54 %) with learning difficulties had medium level of internalizing problems and (59-68 %) of internalizing problems. Children in class III had more (21.2 %) high level of externalizing problems than children in class IV with 15.7 per cent of externalizing problems. No children without learning difficulties irrespective of class had high level of emotional problems. And almost 36 per cent of children had high level of internalizing problems.

Table 17a. Comparison of presence of emotional problems among children with and without learning difficulties

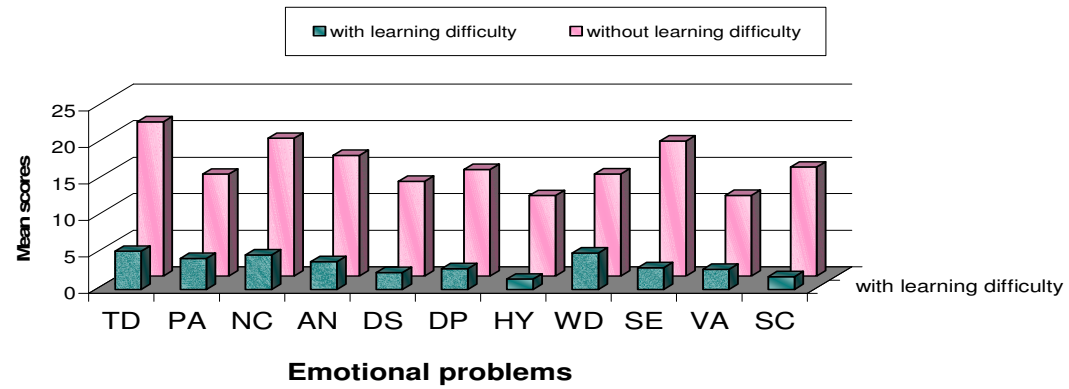
Sl. No.	Emotional problems	Without Learning difficulties		With learning difficulties		‘t’
		Mean	SD	Mean	SD	
1.	Thought disorder	5.22	4.64	21.11	6.05	22.63**
2.	Physical aggression	4.23	3.61	13.95	4.33	18.72**
3.	Non compliance	4.73	3.90	18.86	6.54	20.16**
4.	Anxiety	3.81	3.82	16.52	5.48	20.66**
5.	Distractibility	2.32	2.82	12.97	6.15	17.12**
6.	Depression	2.84	3.40	14.60	5.68	19.32**
7.	Hyperactivity	1.42	2.27	11.02	4.45	20.32**
8.	Withdrawal	4.97	4.34	13.97	4.78	15.14**
9.	Low self esteem	2.98	3.28	18.49	5.61	25.95**
10.	Verbal aggression	2.77	2.75	11.03	4.48	17.08*
11.	Somatic complaints	1.77	2.47	14.92	7.55	18.03*

\* Significant at 0.05 level of probability

Table 17b. Comparison of presence of emotional problems among children with and without learning difficulties

Sl. No.	Emotional problems	Without Learning difficulties		With learning difficulties		‘t’
		Mean	SD	Mean	SD	
1.	Externalizing	13.03	9.08	54.88	13.17	28.56**
2.	Internalizing	11.44	7.76	49.62	11.44	31.44**

\*\* Significant at 0.01 level of probability



**Fig. 7. Status of Emotional problems of children with & without learning difficulty**

Fig .7. Status Of Emotional problems of children with and without learning difficulty

Table 18. Comparison of emotional problems between boys and girls with and without learning difficulties

(N=236)

Emotional problems	Without learning difficulty			With Learning difficulty			$\chi^2$
	Boys	Girls	Total	Boys	Girls	Total	
Internalizing							52.70**
Low	46 (76.7)	39 (66.1)	85 (71.4)	10 (15.4)	01 (1.9)	11 (9.4)	
Medium	14 (23.3)	20 (33.9)	34 (28.6)	33 (50.8)	30 (57.7)	63 (53.8)	
High	0 (0.0)	0 (0.0)	0 (0.0)	22 (33.8)	21 (40.4)	43 (36.8)	
Total	60 (100.0)	59 (100.0)	119 (100.0)	65 (100.0)	52 (100.0)	117 (100.0)	
Externalizing							41.66**
Low	48 (80.0)	47 (79.7)	95 (79.8)	16 (24.6)	5 (9.6)	21 (17.9)	
Medium	12 (20.3)	12 (20.3)	24 (20.2)	33 (50.8)	41 (78.8)	74 (63.2)	
High	0 (0.0)	0 (0.0)	0 (0.0)	16 (24.6)	6 (11.5)	22 (18.8)	
Total	60 (100.0)	59 (100.0)	119 (100.0)	65 (100.0)	52 (100.0)	117 (100.0)	

\*\* Significant at 0.01 level

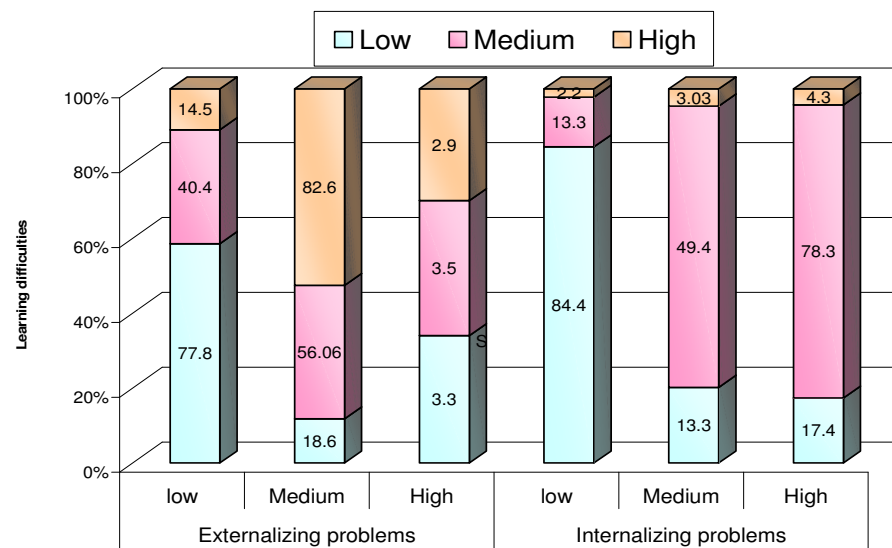


Table 19. Comparison of emotional problems of children by class

(N=236)

Emotional problems	No learning difficulties			Learning difficulties			$\chi^2$
	III	IV	Total	III	IV	Total	
Internalizing							
Low	51 (69.9)	349 (73.9)	85 (71.4)	6 (9.1)	5 (9.8)	11 (9.4)	62.7**
Medium	22 (30.1)	12 (26.1)	34 (28.6)	36 (54.5)	27 (52.9)	63 (53.8)	
High	0 (0.0)	0 (0.0)	0 (0.0)	24 (36.4)	19 (37.3)	43 (36.8)	
Total	73 (100.0)	46 (100.0)	119 (100.0)	66 (100.0)	51 (100.0)	117 (100.0)	
Externalizing							
Low	59 (80.8)	36 (78.3)	95 (79.8)	13 (19.7)	8 (15.7)	21 (17.9)	54.96**
Medium	14 (19.2)	10 (21.7)	24 (20.2)	39 (59.1)	35 (68.6)	74 (63.2)	
High	0 (0.0)	0 (0.0)	0 (0.0)	14 (21.2)	8 (15.7)	22 (18.8)	
Total	73 (100.0)	46 (100.0)	119 (100.0)	66 (100.0)	51 (100.0)	117 (100.00)	

\*\* Significant at 0.01 level



### Emotional problems I

**Fig 8 : Levels of Learning Difficulties/Disability and Emotional problems**

Fig: Levels of Learning Difficulties/Disability and Emotional problems

Table 20 . Association between learning difficulties and emotional problems

(N=198)

Emotional problems	Learning difficulties				$\chi^2$
	Low	Medium	High	Total	
Externalizing					
Low	70 (77.8)	0 (0.0)	10 (14.5)	80 (40.4)	100.0**
Medium	17 (18.9)	37 (94.9)	57 (82.6)	11 (56.06)	
High	3 (3.3)	2 (5.1)	2 (2.9)	07 (3.50)	
Internalizing					
Low	76 (84.4)	6 (15.4)	12 (17.4)	94 (47.48)	91.8**
Medium	12 (13.3)	32 (82.1)	54 (78.3)	98 (49.40)	
High	2 (2.2)	1 (2.6)	3 (4.3)	6 (3.03)	
Total	90 (100.0)	39 (100.0)	69 (100.0)	198 (100.0)	

\*\* Significant at 0.01 level

Table 21. Academic performance of children with and without learning difficulties – class wise

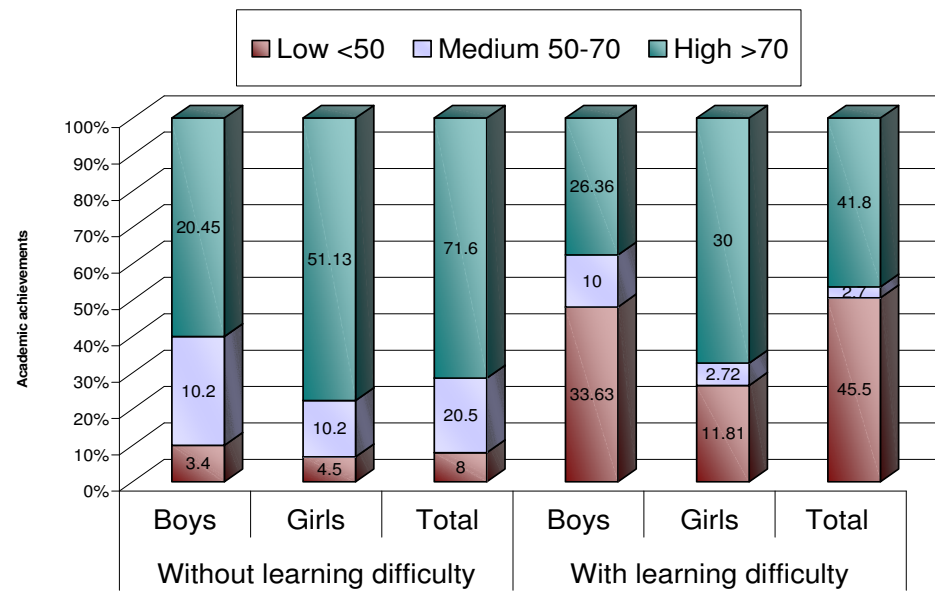
Academic achievement	No learning difficulty			Learning difficulty			$\chi^2$
	III	IV	Total	III	IV	Total	
<50	5 (10.0)	2 (5.3)	7 (7.9)	25 (41.0)	25 (51.0)	50 (45.4)	33.56**
50-70	13 (26.0)	5 (13.2)	18 (20.4)	7 (11.5)	7 (14.3)	14 (12.7)	
>70	32 (64.0)	31 (81.6)	63 (71.5)	29 (47.5)	17 (34.7)	46 (41.*)	
Total	50 (100.0)	38 (100.0)	88 (100.0)	61 (100.0)	49 (100.0)	110 (100.0)	
$\chi^2$	3.28 <sup>NS</sup>			1.84 <sup>NS</sup>			

\*\* Significant at 0.01 level

Table 22. Academic performance of boys and girls with and without learning difficulties.

Academic achievement	Without learning difficulty			With learning difficulty			$\chi^2$
	Boys	Girls	Total	Boys	Girls	Total	
Low <50	3 (3.4)	4 (4.5)	7 (8.0)	37 (33.63)	13 (11.81)	50 (45.5)	12.13**
Medium 50-70	9 (10.2)	9 (10.2)	18 (20.5)	11 (10.00)	3 (2.72)	14 (2.7)	
High >70	18 (20.45)	45 (51.13)	63 (71.6)	29 (26.36)	33 (30.00)	46 (41.8)	
$\chi^2$	3.12 <sup>NS</sup>			1.93 <sup>NS</sup>			

\*\* Significant at 0.01 level



**Fig. 9. Academic achievement of children with and without learning difficulties/disability**

Fig.9. Academic achievement of children with and without learning difficulties/disability

And statistically significant association was found between learning difficulties/disability and emotional problems as two groups of children significantly differed in possessing emotional problems and

#### 4.4.1.4 Association between learning difficulties and emotional problems

Table 20, reveals that there was significant difference between children with and without learning difficulties on emotional problems. children with low level of difficulty possessed low level (77.8%) of externalizing problems and 84.4 per cent of internalizing problems. Children with medium level of difficulty had low (14.5%) level of externalizing and 17.4 per cent of internalizing problems, while 82.6 per cent with medium level of difficulty had medium level of externalizing problems and 78.3 per cent of internalizing problems. majority (94.9%) had high level of difficulty and medium level of externalizing and 2.1 per cent of internalizing problems. And only 18.9 per cent of children with low level of learning difficulty had medium externalizing and 13.3 per cent internalizing problems.

High internalizing (2.6%) and externalizing (5.1%) problems were possessed by children who had high level of learning difficulties. And also very few 4.3 per cent of high internalizing and 2.9 per cent internalizing problems were observed in children with medium level of learning difficulties.

#### Academic achievement of children with and without learning difficulties

##### 4.5.1. By gender

##### 4.5.2. By class/Age

##### 4.5.3 Association between academic achievement and learning difficulties

#### 4.5.2. By Class

There was significant difference in academic achievement of children with and without learning difficulties irrespective of classes, (table 21) children without learning difficulties ( 64 per cent & 81.6 per cent) had higher level of academic achievement as compared to children with learning difficulties (47.5 per cent & 34.7 per cent) irrespective of class and low level of academic achievement was found in children with learning difficulties than children without learning difficulties.

##### 4.5.1. By gender

Table 22 reveals that there was no significant difference between boys and girls with and without learning difficulties but there was significant difference between two groups on academic achievement indicating that children with and without learning difficulty differ on level of academic achievement . Though the results obtained showed that girls performed better (30 % versus 51 %) as against boys with 26 per cent and 20.45 per cent with and without learning difficulties respectively. Whereas 33.63 per cent of boys with learning difficulties had low level of academic achievement against girls (11.8%). But boys and girls without learning difficulties had low and medium (10.2%) level of academic achievement.

##### 4.5.3 Association between gender and academic achievement.

Results from Table 23, showed that children with learning difficulties academic performance was low (45.5) as compared to children without learning difficulties fell more (26.5) in the medium and high (71.6%) level of academic achievement than children with learning difficulties who fell in low level (41.8%) of academic achievement and 12.7 per cent had medium level of academic achievement than their counterparts. Further, results also revealed significant association of academic achievement and learning difficulties.

## 4.6 COMPARISON OF WRITING DIFFICULTIES EMOTIONAL PROBLEMS AND ACADEMIC ACHIEVEMENT OF CHILDREN WITH AND WITHOUT LD

From table 24, it is observed that there was difference in mean scores of children with and without learning difficulties on all 3 variables viz., writing difficulty externalizing and internalizing and on academic achievement. Children with learning difficulties scored higher

on writing difficulties and emotional problems in terms of externalizing and internalizing against children without learning difficulties. Whereas children without learning difficulties (M, 75.48) had better academic performance than children with learning difficulties (M, 64.01).

Table 23. Association between academic performance & learning difficulties

Academic achievement	Without learning difficulty	With learning difficulty	Total	$\chi^2$
Low	7 (8.0)	50 (45.5)	57 (28.8)	33.56**
Medium	18 (20.5)	14 (12.7)	32 (16.2)	
High	63 (71.6)	46 (41.8)	109 (15.1)	

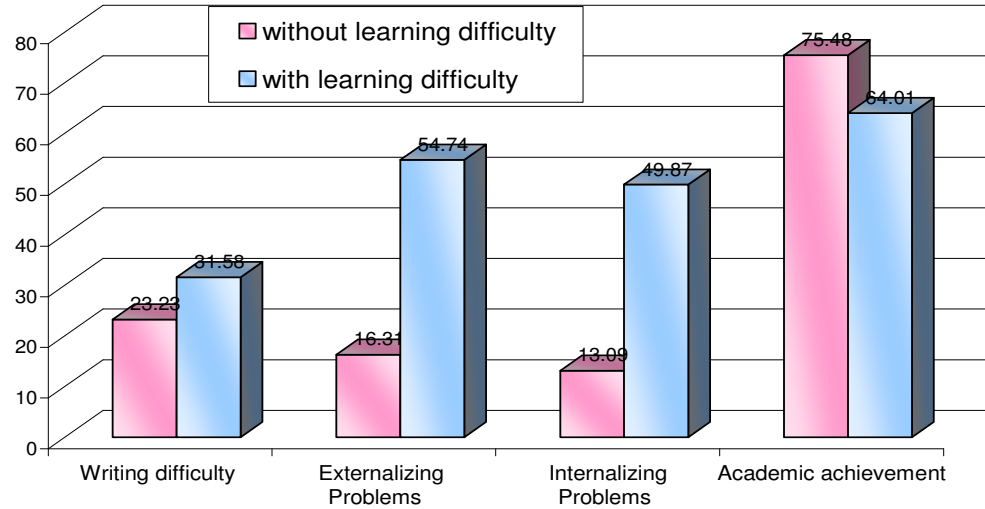
\*\* Significant at 0.01 level

Table 24. Comparison of mean scores of writing errors, emotional problems and academic achievement of children and learning difficulties

Sl. No.	Variables	Without learning difficulties		With learning difficulties		't'
		Mean	SD	Mean	SD	
1.	Writing difficulty	23.23	1.63	31.58	4.54	-16.39**
2.	Externalizing	16.31	15.74	54.74	13.00	-18.80**
3.	Internalizing	13.09	13.78	49.87	11.51	-20.45**
4.	Academic achievement	75.48	11.56	64.01	13.94	6.19**

\*\* Significant at 0.01 level





**Fig 10: Comparison of writing difficulty, Emotional problems & Academic Achievement of children with and without learning difficulties/disability**

Fig 10: Comparison of writing difficulty, Emotional problems and Academic Achievement of children with and without learning Difficulties/disability.

## V. DISCUSSION

Findings of the present study are discussed under the following headings.

- 5.1a. Prevalence of learning difficulties among primary school children.
- 5.1b. Prevalence of learning disability among primary school children.
- 5.2 Etiological factors of learning difficulties
- 5.3 Consequences of learning difficulties among primary school children
  - 5.3.1 Emotional problems of children
  - 5.3.2 Academic achievement of children

### 5.1a Prevalence of learning difficulties/disability among primary school children

The study attempted to know the prevalence of learning difficulties/ learning disabilities in classes 3 & 4 of English medium schools, as at this stage the problem are easily discernable and distinguished from difficulties & disabilities. This stage is also most suitable to intervene through proper remedial strategies so that the learning problems do not exaggerate and impede the learning process of school children.

The prevalence of learning difficulty/disability assessed school wise & class wise. It is a comfortable situation to note that the children in one of the selected schools did not have learning disabilities. But this group of children had surmountable extent of learning difficulties. The difficulties were of alarming nature as a high prevalence (21%) of the identified children was of high level of difficulties. Among them 4 per cent had learning disability (disabilities of intrinsic factors i.e., cerebral dysfunction)

The prevalence in school 1 was around 15-17 per cent and school 2, 17-23 per cent prevalence of learning difficulties irrespective of classes. In spite of better school facilities, this is mainly because of over crowded strength in classes, due to which the children could not get individual attention of the teachers. Children who had difficulty in acquiring these academic skills in early years due to neglect had difficulties that persisted. There was higher degree of learning difficulties. Because of inattention of the teacher, most of the time these children spent in talking with their friends and distracting others in classroom. In turn, got severe punishment from teacher for their misbehaviour and for not doing work as efficiently as their counterparts. Further these children developed lack of interest and negligence towards studies. When both girls and boys are equally misbehaving at school boys receive more frequent and severe penalties. Boys, particularly low-achievers, receive 8 to 10 times the reprimands of their female classmates. These reproaches are more likely to occur in front of classmates, whereas girls are more frequently taken aside in private.

School 3 had relatively high prevalence of learning difficulties in children compared to other two schools, in spite of low teacher-pupil ratio. It may be mainly because of low of quality teaching, lack of congenial learning environment in the school.

#### By class

Results also indicated that children in class IV had more learning difficulties than children in class III. This may be a true situation of persistence of problems. Among the children with high level of difficulties 4 per cent had symptoms of inversions & reversals an indication of learning disability. There was significant difference between the groups in terms of writing errors. Children with learning difficulties had more medium and high level of writing errors than their peers in other groups. Surprising results of the study revealed that young children showed low levels of errors in their writing.

#### By gender

Results revealed that writing errors more in boys than in girls approximately 2-4 times higher (31 %) in boys than in girls (12%).

Significant association between gender and learning difficulties also showed boys had significantly more learning problems than girls. The problem is partly developmental. Girls mature more quickly than boys. They enter school with bigger vocabularies and better fine motor skills. So it's easier for them to learn to write efficiently than boys. Boys did not only

differ greatly in presence of learning difficulties but also in the showing symptoms of learning disability than girls. Boys had higher levels of writing errors than girls.  
Prevalence of learning disabilities

Table 8 reveals that a small proportion (4%) of children had learning disabilities, which was seen in terms of severe writing errors like reversals, substitutions, omissions etc apart from other errors like punctuation, wrong capitals which was usually and casually done by children with learning difficulties. The nature of errors committed by learning disabled



**Plate 4. Over crowded strength in a class**

Plate 4. Over crowded strength in a class

children was observed in an on going study at NIMHANS (Bhasi, 2001). Writing errors were in the form of letter reversals, for example, writing 'b' for 'd' and vice versa, inversions like 'was' for 'saw', etc

Boys (6.14 %) had more learning disabilities than girls (1.5%). Class IV had higher (4.9%) level of learning disability than class III (2.7%). Similarly, Abramowic (1981) reported that numerous neurodevelopmental disorders including autism, speech and language disorders and learning disabilities are diagnosed more often in boys than in girls.

#### Gender wise

No significant difference between girls and boys in terms of levels of writing errors were observed but significant association was found between writing errors of children with and without learning difficulties. Children with learning difficulty had more writing problems than their peers in the other group. They also tended to have more attention difficulty and more writing errors in terms of additions, omissions, reversals, substitution, illegible handwriting etc. Shenoy (1992) reported the same trend of prevalence of learning difficulties in boys (11%) than girls (8%).

Similarly, Smith (2004) revealed that boys are 1.5 or 6 times more likely to be identified than girls are. Boys are far more likely to be identified as LD despite the research

suggesting an equal incidence of LD among girls and boys. These could be linked to possible medical, maturational, sociological and brain organization factors.

#### Etiological factors

##### Pre-school history

There was no significant difference between children with and without learning difficulty in years of pre-schooling. But there was significant association of learning difficulties and medium of instruction. Few children from both groups had their pre-school education with Kannada medium of instruction. But children with learning difficulty did not cope with the transition of medium of instruction from Kannada to English may be because of the confusion due to bilingualism at a stage when they had still not mastered with one language that made learning more difficult.

Results of the study also indicated that there were significant differences between language spoken at home and medium of instruction followed in schools. Majority of children with learning difficulty learnt English as second language and most of them were from non-English speaking backgrounds. While bilingualism per se need not, most often does not, interfere with learning. Those children from non-English-speaking homes are slower than those from English-speaking backgrounds in their English reading skill acquisition has been documented by Loomba, (1995); Thomas,(1996). This may have had an impact on their learning levels of children due to less involvement and opportunities both at home and at school in acquisition of writing skills as well as in learning.

Hence the null hypothesis was rejected stating learning difficulties are associated with environmental factors such as change in medium of instruction and number of years in pre-school.

##### Medical history

Few parents reported of medical complications irrespective of groups of children with extremes of writing errors, few reported of edema, swelling, maternal illness during pregnancy. There were few cases of consanguineous marriages. No association was found between learning difficulties and medical complications during birth or consanguinity or history of disability in the family. This is a clear evidence of learning difficulties which were not of constitution origin but environmental factors mainly due to the school environment.

##### Parental involvement

Results indicated that both father and mother coached children of both group with and without learning difficulty. But the time spent for coaching differed significantly between the two groups. Parents of children with learning difficulty spent more time in coaching indicating their concern towards their child's difficulty.

Majority of children in both groups were given better home learning facilities in terms of extra reading materials like books, comic series, children's magazines, home work completion, revision during examination time etc.

##### Activities at home

Significant association was found between time spent for watching TV and learning difficulty. Children with learning difficulty spent more time (2-3 hrs) than children without difficulty. Because of their disinterest these children, avoided activities that involved academic skills as far as possible and engaged themselves in activities like playing, watching TV etc.

Results also indicated they needed more time to complete their homework than their peers without learning difficulty, majority of whom completed their home work in less than an hour. This might be because of their frequent changing mood, in attentiveness and lack of concentration and disinterest.

Gajria (1999) who found that these were some similarities in the practices of children with and without learning difficulty; the results showed that children with learning difficulty engaged to a significantly greater extent in practices that interfered with home work completion.

### Classroom behaviour

Results revealed significant difference between the classroom learning behaviour of children with and without learning difficulties. Children without learning difficulties had greater interest. They asked questions as well as answered questions asked by teacher in class than their peers in other group but with learning disabilities/disability. They did not ask questions nor answer were found to be inattentive busy in off-task activities in class. This might be because of hesitant nature and lack of confidence in self.

McKinney & Feagans (1984) observed elementary school students with learning disabilities in the regular classroom during academic activities using Scheduled for Classroom Activity Norms (SCAN) a time-sampling system that records task-oriented, social and affective behavior as well as the settings in which the behavior occurs. They found that the students with learning disabilities tended to be less on-task and to exhibit more off-task behavior than their classmates. They were also more distractible and dependent or aggressive, which is significantly, negatively correlated with academic progress.

### Consequences of learning difficulties

#### 1. Emotional problems

Findings of the present study revealed significant association between learning difficulties and emotional problems of children. As the difficulty level increased the level of problems also increased. Children with medium level of difficulty had higher emotional problems in terms of externalizing and internalizing problems. Children with learning difficulties tended to act out their feelings and emotions, using verbal threats and physical aggression. Some children showed excessive anxiety, depression because of their excessive worries about their difficulties and not meeting the expected academic requirements. Results were on par with the findings of Bevington *et al.* (1991) who reported the association between poor academic achievement and behavioural problems, on classroom performance in children with identified learning difficulties. Maag *et al.* (2006) found that students with learning disabilities obtained statistically higher scores on measures of depression than their peers without learning disabilities. Similarly Adams (1999) examined the relationship between behavioural problems and academic attainment in a large UK primary school. Results revealed association was strong in children who had a specific reading deficit

#### Status of emotional problems among children with and without learning difficulties

The two groups significantly differed in presence of emotional problems. Children with learning difficulties showed over 2-4 times more likely than their peers without learning difficulties to display emotional problems in all 11 but sub scales viz.,

1. Thought disorder. 2. Physical aggression. 3. Verbal aggression. 4. Non compliance. 5. Hyperactivity 6. Somatic complaints 7. Distractibility 8. Anxiety 9. Low self-esteem 10. With drawl 11. Depression.

Difference in thought disorder in children with learning difficulties clearly appeared more confused and disoriented to the environment and out of school than their peers. In physical aggression children bullied or physically provoked others by hitting and pushing other children. These children showed stubborn, rebellious and uncooperative behaviour and had low respect for authority. In the same way impatient, easily excitable, impulsive, fidgety and restless behaviour was found more often in children with learning problems. These children also tended to show trembling, shaking or other nervous habits and difficulty in relaxing and staying calm.

Also children with learning difficulties showed poor concentration, short attention problems, difficulty in listening and following instructions and staying on task than their peers. They also appeared sad, gloomy, hopelessness, great dissatisfaction in self and unhappy than their counterparts. High scores on withdrawal revealed that children with learning difficulties appeared aloof and socially isolated and they described themselves as quiet.

High scores on low self esteem component of emotional problems showed that children with learning difficulties had poor self confidence and more dependence on other people and greater feeling of insecurity than their peers in other groups. Somatic complaints

were also significantly more in these children. Children with learning difficulties used frequent health complaints and tend to overreact to the minor aches, pains, illnesses and injuries to avoid participating in academic related tasks more often than their peers as indicated by higher means on this dimension of emotional problems.

In sum, these children tended to act out their feelings and emotions using verbal threats and physical or showed excessive, depression, withdrawal than their peers. Shanti (1999) found that children with scholastic problems had higher rates of externalizing, internalizing learning and miscellaneous behaviour problems.

Further at elementary grade years, many of the researchers viz., Lambart and Sandoval (1980), Reeves *et al.* (1987) McGee and Share (1988), McCaughy *et al.* (1988), and Frick *et al.* (1991) concluded that attentional difficulties constituted the externalizing domain that was uniquely associated with under achievement during childhood.

Therefore, the null hypothesis was rejected stating that learning difficulties are associated with emotional problems and academic achievement of primary school children.

Gender differences

Findings of the result revealed that no significant association between gender and emotional problems among children with and without learning difficulties. Among the group of children without learning difficulties boys and girls with low level of writing errors had low levels of emotional problems. Children with learning disability showed high levels of emotional problems. Among the group, children with greater writing errors, in terms of reversals, substitution, omissions had difficulty in academic skills.

#### Class

Children of class IV had more medium level of externalizing and internalizing problems against children in class III who had high level of both externalizing and internalizing problems. In sum children in class III had more of externalizing and internalizing problems than children in class IV. Children without learning difficulties had low levels problems more in class III than in class IV. This might be the result of adjustment process where in the problems decreased as the age advanced. But it was not in case of learning difficulties as more problems were observed in children of class IV than class III alarming the teachers and parents. This indicates that if the problems are not identified in the early years and treated it may lead to more serious problems in future.

#### Academic achievement of children with and without learning difficulties

The findings of the study revealed significant association between academic achievement of children and learning difficulties. Children with learning difficulties had low level of academic achievement and high level of academic achievement was seen in children without learning difficulties. Results also indicated that few children had higher level of academic achievement in spite of their learning difficulties. These children might have fared well in orals than in writing. And it might be because intelligent children, who have been able to use compensatory strategies to learn within the class room in the early academic years, can begin to display learning difficulties as the academic material becomes more complex & their strategies, are less effective as before.

#### Academic achievement by gender

Results revealed that girls without learning difficulties had higher academic achievement than boys. Similarly, among children with learning disabilities boys with learning difficulties had lower levels of academic achievement than girls. Normally girls fare better than boys, less prone to dyslexia and other learning disorders. But the recent studies asserts that the problem with boys cuts across socio-economic lines and interestingly, blames teaching methodologies that cater to the strengths of girls students and leaves their male counterparts disinterested. Neurological studies report that girls have audiological and neuronal structures that make them superior in writing and listening and verbal skills. It is also known fact that girls are approximately a year and half ahead of boys in reading and writing ability, as the US department of education recognizes. Educator and Author Micheal Gurian argued that

neurological, chemical and hormonal disparities exist between genders that create difference in learning skills between the two genders.

Another investigation that is interesting but decade old finding is that girls hear significantly better than boys especially in the frequencies most important for a speech discrimination (4 KHz). Such an evaluation was published over 40 years ago by John F. Corso in the journal of the Acoustical Society of American. These differences in the ability to hear have major implications in the learning environment. (Cited, Times of India, Bangalore, dated, 28-10-2005)

Overall, girls either with or without disabilities had better school results than boys with and without disabilities. They received better grades, were more likely to graduate from high school, and were less likely to get suspended or expelled (the Center for Human Policy 1997). Academic achievement by class.

There was not much difference in academic achievement of children of class III and IV but children in class IV without learning difficulties had high academic achievement than class III. As age advances the children turned to be more competitive and success oriented.

## VI. SUMMARY

The present investigation was undertaken with the following objectives.

1. To study the prevalence of learning difficulties/ disability among primary school children.
2. To explore the etiological factors affecting learning difficulties.
3. To study the emotional problems of children with learning difficulties and/or disability.
4. To know the academic achievement of children with learning difficulties and/or disability.

The study was carried out during 2005-06 in Dharwad city. The sample of the study was drawn from two divisions of 3<sup>rd</sup> and 4<sup>th</sup> classes of the three selected English medium schools- a total of 12 classes/divisions. From the selected class, children with less writing errors and with more writing errors formed two groups. From each group 10 children were selected comprising of a total of 240 children. List was corroborated from the respective class teachers' nominations. But as few parents did not return the questionnaire (42) total sample of 198 children constituted the two groups with (N=110) and without (N=88) writing difficulties.

Writing test was administered to identify the children with learning difficulties and/or disability. Children were categorized into two groups on the basis of number of writing errors. One group with more writing errors and other group with less/ no writing errors. A questionnaire for parents to elicit the information about parents' awareness of learning difficulties in their children was sent through the child. Respective class teachers were administered the PART-B questionnaire as well. The teachers rated the selected child on emotional problem scale which was administered by the investigator. The marks attained by the students in final examination were obtained from school records

The major findings of the study are as follows:

1. Prevalence of learning difficulty/disability among primary school children.
  - The total prevalence of learning difficulties ranged from 17-20 percent in the selected school. The rate of prevalence was 18 per cent in case of learning difficulties and 4 per cent in case of learning disabilities.
  - Children in class IV had higher level of learning difficulties/disability than children from class III.
  - Boys had 2-4 times more learning difficulties than girls. Similarly in case of learning disability.
2. Comparison of levels of writing errors of children with and without learning difficulties
  - Children with learning difficulties had high level of writing errors. Among the high level category, children had errors such as reversals and substitutions that are indication of writing disability.
  - There was significant association found between levels of writing errors and gender wherein, boys had more problems than girls.
3. Etiological factors of learning difficulties
  - Learning difficulties were not associated with factors like number of years of pre-schooling or parental coaching but was significantly associated with change in medium of instruction and activities engaged by the children at home such as watching TV, writing, reading, etc. The learning difficulties were mainly because of environmental factors such as change in medium of instruction. It may also have been due to poor teaching quality over crowded class size and partly due to the difference in developmental pattern of boys and girls, having an edge over the boys in neurological & audiological capacity.
  - Learning difficulty was not associated with medical complications or consanguineous marriages of parents.
  - About 4 per cent of children with high level of writing errors showed signs of writing disability which may be due to cerebral dysfunction in children.
4. Consequences of learning difficulties
  - There was significant association between learning difficulties and emotional problems. Children with learning difficulties had significantly more emotional problems than their peers without learning difficulties/disability.



- There was significant association between gender and emotional problems. Boys with learning difficulties had more emotional problems than girls with learning difficulties. Whereas children irrespective of gender without learning difficulties had lower levels of emotional problems.

#### 5. Academic achievement

- There was significant association between academic achievement and learning difficulties. More number of children without learning difficulties had high level of academic achievement than their peers with learning difficulties.
- There was also significant association between academic achievement and gender. Girls with and without learning difficulties performed better irrespective of their difficulties but more boys with learning difficulties scored less than 50 marks in their examination.
- Children without learning difficulties in class III performed better than children with learning difficulties. But children with learning difficulties in class IV performed better than children with difficulties in class III.
- The two groups significantly differed in writing difficulties, emotional problems and academic achievement. Children with learning difficulties had more of emotional problems associated with learning problems and had lower academic performance than their counterparts. The interrelationship of variables revealed that learning difficulties/disability was positively related to emotional problems and significantly but negatively related with academic achievement.
- Boys had more of learning difficulties and emotional problems than girls. But in academic achievement their performance did not differ.

### Implications and recommendations

'Education for all' is the right of every child to be shaped to live a normal life and for sound/optimum all-round development of an individual. Recognizing the universalization of education does not mean universal enrollment only, but also universal achievement of all children in the school going age. It was seen from the results of the study that at least 21 per cent of children in a class had learning difficulties most commonly writing and reading which indeed is an alarming condition that needs attention.

Learning difficulties/disability should be seen as a 'symptom' reflecting a larger underlying problem in children in terms of emotional problems on their performance in the academics. A proportion will overcome the difficulties, but in majority the problems are likely to persist and to have deleterious consequences on their educational accomplishment and adjustment. Children with disabilities and learning difficulties need special teaching and sometimes different educational facilities from those that schools generally provide for children of the same age. But in reality these children are undiagnosed and marginalized with a tendency of their difficulties precipitating and conduct and emotional problems amounting to which camouflage the difficulties/disability and make it difficult to remediate in later life.

Writing / spelling difficulties amongst students with learning difficulties and disabilities is a well documented problem. Historically, spelling has received less attention in the learning disabilities literature compared to reading instructions. Yet, spelling/writing problems in students with learning difficulties and learning disabilities may be more severe than reading difficulties and have proved more difficulties to remediate.

Diagnosis of learning difficulties/disability can help parents and teachers to provide early intervention and support services through better coaching and psychological guidance which would dispel emotional problem and promote better scholastic achievement. Learning difficulties and disability identified at this stage at III and IV standard has its advantage of early identification of the problems and also it is the most suitable period to intervene through proper remedial strategies.

Bilingualism and multilingualism are wide spread phenomena in most Indian children, particularly in the urban areas. In school, they are expected to master more than one language and script, often widely varied in their structure. Children who come from diverse

linguistic and socioeconomic backgrounds, enroll in English medium schools with varying degrees of exposure to English in the pre-school years and with different degrees of literacy support at home, ranging from illiterate parents to a fairly child without exposure and/or support not only has to cope with both the new language and literacy acquisition, but also has to compete with his peers. The educational system makes a provision of another language even before the mastery of one language. These conditions may aggravate or lead to difficulties in children.

The conditions in classrooms, even in the best schools, are far from ideal. More often than not, a single teacher, inadequately trained and equipped, has to handle between 50 and 100 children. This situation may debilitate to identification of children with learning difficulties/disability, more to cater to the needs of individual children there by resulting in an onset of learning difficulties.

Parent of the child with learning disability are often under unnecessary strain. They may be truly distraught. They may have feelings of inadequacy and incompetence or self blame for things having gone wrong. Providing insight into the true nature of learning disabilities through parental meetings work shops, seminars, can lessen their guilt. Conveying the important message and knowledge for parents of children with learning disabilities in proper management and coping strategies is the effective means for both the child and families and assurance for parents of children with learning difficulties to over come the hazard through timely intervention and efforts.

The cornerstone of treatment of specific learning difficulties/disabilities is remedial education which should ideally begin early when the child is in school. Children with emotional problems associated with learning difficulties/disabilities need counseling sessions with child psychologist /child psychiatrist, because emotional problems may mask learning disabilities. The emotional distress worries may increase learning disability when children are worrying about their school work their anxieties about their works and their marks can decrease the ability to pay attention to what they are learning. Not paying attention to things that they have to learn can lead children not to comprehend and learn and at the end they may give up and dropout of the school or may even end up as truants.

Learning disability or difficulty forms an important cause of failure in school in otherwise capable children. The learning difficulties /disabilities are often accompanied by problems of attention and concentration organization, emotion and feelings and social interaction. A multidisciplinary approach is essential for early recognition of this difficulty/disability. The appropriate remedial strategies help the child attain his/her maximum educational potential and become a productive and contributing adult member of the society.

## Suggestions for further research

- Specific learning difficulties in other areas such as reading and arithmetic need to be explored.
- Diagnosis of learning disabilities through a battery of tests
- Impact of intervention strategies for combating learning difficulties and/or disabilities
- Impact of remedial behavioural modification techniques for children with learning difficulty/disability with emotional problems.
- Comparison of prevalence of learning difficulty and/or learning disability in different schools with vernacular medium of instruction other than English
- Development of identification tools in regional/vernacular languages for screening of learning difficulties in schools with vernacular medium of instruction.

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## Appendix 1

Check list for writing errors.

Sl. No.	Type of errors	Frequency of errors
1	No space between words	
2	Missed out a letter ('went' as 'wet')	
3	Substituted a letter	
4	inversions b/d, m/w,	
5	Reversals e.g. 'saw' as 'was'	
6	Added a letter	
7	Wrong capitals	
8	Shortening of a letter('sunly' for 'suddenly')	
9	Wrong order ('felt' as 'left')	
10	Others-punctuation, spelling mistakes.	
11	No uniformity in size	

Total number of errors =

Time taken =

Remarks =

## APPENDIX II

### EMOTIONAL PROBLEMS SCALE

INSTRUCTIONS : Please rate the selected child on the following

Sl. No.	Statements	Almost never	Rare	Occasionally	Often
<b>I.</b>	<b>Thought Disorder</b>	<b>0</b>	<b>1</b>	<b>2</b>	<b>3</b>
1.	Thinking appears mixed up or confused				
2.	Seems obsessed or preoccupied with certain ideas				
3.	Feels persecuted				
4.	Engages in peculiar or bizarre behaviors....				
5.	Appears disoriented				
6.	Relates peculiar and strange experiences.....				
7.	Is unaware of what is going on in the immediate environment				
8.	Seems out of touch with reality				
9.	Memory and concentration seem poor due to confusion				
10.	Confused thinking impairs work ability				
11.	Exhibits repetitive behavior				
12.	Seems to have strange impulses				
13.	Seems overly suspicious				
14.	Describes things that do not match reality				
15.	Displays inappropriate affect				
<b>II.</b>	<b>Physical Aggression</b>				
1.	Physically provokes others				
2.	Openly strikes back when angry at others				
3.	Fights with others				
4.	Is feared by others because of aggressive behavior				
5.	When angry, slams doors, bangs tables etc				
6.	Tries to pick fights				
7.	Is physically aggressive				
8.	Hits others				
9.	Pushes others				
10.	Bullies others				
<b>III.</b>	<b>Non Compliance</b>				
1.	Is stubborn				
2.	Does not cooperate with requests from supervisors				
3.	Displays a rebellious attitude				
4.	Does not take responsibility for own actions..	<b>0</b>	<b>1</b>	<b>2</b>	<b>3</b>
5.	Prefers to do things own way				
6.	.Does not take suggestions				
7.					

8.	Cannot accept constructive criticism				
9.	Engages in rule violation				
10.	Displays little respect for authority				
11.	Is often in trouble				
12.	Gets along poorly with those in charge				
13.	Tries to get away with as much as possible				
14.	Does not like being told what to do				
15.	Shows little respect for property of others Lies				
IV.	<b>Anxiety</b>				
1.	Seems jumpy; is easily startled or frightened				
2.	Expresses concerns about bad things happening to him/her				
3.	Trembles, shakes, or appears restless when nervous				
4.	Is unable to relax or stay calm				
5.	Displays nervous habits (e.g., fingernail biting, tics, pulling at hair, etc.)				
6.	Is fearful in new situations				
7.	Worries about performance on different tasks;				
8.	Is afraid of making mistakes				
9.	Appears nervous in group or social situations				
10.	Displays or talks about fears				
11.	Appears tense and nervous				
12.	Worries about many things				
V.	<b>Depression</b>				
1.	Appears sad, depressed				
2.	Never smiles				
3.	Appears disappointed or disgusted with self; feels worthless				
4.	Has lost interest in normally pleasurable activities				
5.	Appears unhappy, gloomy				
6.	Complains of sleeping difficulty				
7.	Appears agitated or slowed down				
8.	Appears tired, fatigued				
VI.	<b>Disractivity</b>	0	1	2	3
1.	Has poor concentration				
2.	Is easily distracted				
3.	Has poor attention span				
4.	Appears to daydream				
5.	Has difficulty staying on task				
6.	Has difficulty following directions				
7.	Is always looking around				
8.	Doesn't seem to listen				
9.	Needs constant supervision				

10.	Is distractible				
<b>VII.</b>	<b>Withdrawal</b>				
1.	Avoids group activities				
2.	Does not initiate relationships with others...				
3.	Is easily excitable				
4.	Seldom talks to others				
5.	Has difficulty engaging in normal social conversation				
6.	6. Appears socially isolated				
7.	7. Appears disinterested in others				
8.	8. Often sits alone or away from others				
<b>VIII.</b>	<b>Hyperactivity</b>				
1.	Is restless, squirmy; fidgets				
2.	Disturbs others				
3.	Spends much of his her time alone				
4.	Is impulsive; acts before thinking				
5.	Is overly active				
6.	Jumps from an activity to another				
7.	Is always talking out				
8.	Is impatient; has trouble waiting				
9.	Has difficulty in organizing tasks				
10.	Does messy and sloppy work				
<b>IX.</b>	<b>Low Self-Esteem</b>				
1.	Seems to have poor self-concept				
2.	Seems to have little confidence in own abilities				
3.	Seems to be insecure				
4.	Describes self as clumsy or always making mistakes				
5.	Doubts own abilities				
6.	Complains that others don't like him/her; says he/she is unpopular	0	1	2	3
7.	Says that he/she has no friends				
8.	Puts self down; downgrades self				
9.	Is overly dependent				
10.	Is reluctant to try new things				
11.	Has a low personal expectation				
12.	Describes self as "dumb" or "stupid"				
13.	Worries a lot before starting something				
14.	Gives up easily				
<b>X.</b>	<b>Verbal Aggression</b>				
1.	Argues with peers				
2.	Threatens others				
3.	Verbally provokes others				
4.	Talks back				
5.	Interrupts others				

6.	Criticizes or teases others				
7.	Is loud, boisterous, and bossy				
<b>XI.</b>	<b>Somatic concerns</b>				
1.	Overreacts to minor injuries or pain				
2.	Is concerned about physical health				
3.	Complains about headaches				
4.	Complains about stomachaches				
5.	Requests to see nurse or doctor				
6.	Complains of poor health				
7.	Uses health complaints to avoid tasks				
8.	Talks about having a serious illness				
9.	Becomes dramatic about minor illnesses				
10.	Complains about minor aches and pains				
11.	Complains about dizziness or faintness				
12.	Complains about being tired				

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## PART-A

### QUESTIONNAIRE- FOR PARENT

#### A. General information:

1. **Name of the child:**
2. Age: \_\_\_\_\_ Gender: \_\_\_\_\_
3. Ordinal position of the child:
4. Class: \_\_\_\_\_ Division: \_\_\_\_\_
5. Grades obtained  
Present: \_\_\_\_\_  
Previous: \_\_\_\_\_
6. Type of family: nuclear/ joint/ extended
7. Number of family members:
9. Family income:
10. **Family information:**

Sl no .	Name	Age	Relation with the child	Education	Occupation

#### B. Scholastic history:

1. At what age did your child first go to school  
I . Pre-school: \_\_\_\_\_ primary school: \_\_\_\_\_  
ii. Total years in pre- school:  
iii. Medium of instruction: Kan/ Eng/ any other (specify)
2. Did he continue in the same school for the first standard? Yes/No If no, then  
medium of instruction in primary school?  
\_\_\_\_\_

3. Which language do you speak at home?  
English/ Kannada/ Marathi/ Hindi/ any other (mention)

**C. Parental involvement:**

1. Who coaches him/her? Father/ Mother/ Both  
Time spent: \_\_\_\_\_ hrs.
2. Do you assist/ supervise him/ her for the task
- a. Home work
  - b. Revision
  - c. Other general reading (books, TV, computers, games)
  - d. Any other (specify)

3. How often do you visit your child's School?  
Daily /weekly / monthly / rarely.

(If mother is working)

4. Do you apply leave & spend full time with your child during examination?

Yes/ No

5. In which activity does he engage himself/ her?

Activities	Approx. time spent
Videogames/computer	
Watching TV	
Reading -story books/ comics/ picture book/ rhymes/ etc.	
Writing – spelling/mathematics/	
Painting	
Playing-indoor/ outdoor	
Any other (mention)	

6. Does the child attend the following

Activities	Response	If yes, since when
Summer camps	Yes/ No	
Computer classes	Yes/ No	
Tuitions/ coaching classes	Yes/ No	
Music classes/ dance	Yes/ No	



classes		
Any other (mention)	Yes/ No	

7. How do you feel about his/ her scholastic performance? 5-point scale

☐ Excellent    Good    Average    Poor    Very poor

8. Are you satisfied about his/ her achievement?

Yes/No.

If no, what are the reasons?

**D. Medical history:**

1. Type of delivery: normal/ caesarian/ forceps
2. Gestation period: premature/normal/post mature
3. Birth weight of the child: \_\_\_\_\_
4. Complications, if any, during pregnancy/delivery?

Yes/no.

If yes, give details.

5. Consanguinity

Yes/no.

(Marriage within relations)

If yes, Maternal side /paternal side

6. Any disorder present in the paternal/ maternal family members?

Yes/no.

If yes, give details

- Mental retardation
- Psychiatric illness
- Learning or speech problems.
- Any other (mention)

## PART-B

### Academic performance

- a. What are the grades obtained by the child during past two/three years?

Area	Grades/marks	
	Previous class	Present class
Writing		
Reading		
Arithmetic		
Painting		
Dictation		
Any other (specify)		

### Attention difficulty:

- a. Does he/she exhibit difficulty in the following through the instructions from others?  
Yes/ No.
- b. Does he/she show difficulty sustaining attention in tasks or play activity?  
Yes/ No.
- c. Does he/she often shift from one uncompleted activity to another?  
Yes/ No.
- d. Does the child, often loses/misplaces things necessary for tasks or activities at school or at home (e.g. toys, pencils, books, assignments etc.)  
Yes/ No.
- e. Does the child use health complaints to avoid going to school/doing homework?  
Yes/ No.
- f. Does the child exhibit difficulty playing quietly? Yes/ No.
- g. Does the child exhibit frequent change his/her mood? Yes/ No.

**Academic problems:**

- a. Does the child exhibit difficulty in understanding grammatical aspects of language? Yes/ No. If yes, give examples.
- b. Does the child exhibit problems in reading the text? Yes/ No.
- c. Does the child exhibit difficulty in comprehending the read material? Yes/ No.
- d. Does the child show difficulty in spelling the words correctly? Yes/ No.
- e. Does he/she make mistakes of the following types?  
    'bog' for 'dog' Yes/ No.  
    'tip' for 'pit' Yes/ No.  
    'left' for 'felt' Yes/ No.  
    'house' & 'home' Yes/ No.  
    m/w, t/f/, p/q, d/b,6/9. Yes/ No.  
    'limp' as 'lip', 'went' as 'wet' Yes/ No.  
    'want' as 'what' , 'what' as 'whart'. Yes/No.  
    capital letters in the middle of word, Yes/ No.
- f. Is the writing legible? Yes/ No.
- g. At what age/class did you notice this difficulty in your child?
- h. Does she/he try to avoid the any of the following?  
    i. Writing Yes/No.  
    ii. Reading Yes/No.  
    iii. Arithmetic Yes/No.
- i. Does the child actively participate in the following classroom activities-  
    a. Ask queries Yes/No.  
    b. Answer to questions Yes/No.  
    c. Attentively listen & take down notes Yes/No.

# PREVALENCE OF LEARNING DIFFICULTIES / DISABILITY AMONG PRIMARY SCHOOL CHILDREN : EFFECT ON EMOTIONAL PROBLEMS AND ACADEMIC ACHIEVEMENT

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## ABSTRACT

An exploratory study on prevalence of learning difficulties/disability among primary school children and its effect on emotional problems and academic achievement was carried out in Dharwad city during the year 2004-06. A sample of 198 children (110 with learning difficulties and 88 without learning difficulties) was drawn from 3 selected English medium schools studying in 3<sup>rd</sup> and 4<sup>th</sup> standards. A writing test was administered to know the learning difficulties/disability. Emotional problems were assessed through teachers ratings using emotional problem scale developed by Prout and Strohmer (1985) and two semesters grades were obtained from school records to know the academic achievement of selected children.

Results revealed that prevalence was found to an extent of 21 per cent, among which 17 per cent of children had learning difficulties and 4 per cent had learning disability. The learning disabilities was found in writing errors such as substitutions, reversals, omissions, other than punctuation errors and wrong capitals etc. boys and 2-4 times more learning difficulties / disability than girls. The learning difficulties were due to factors such as change in medium of instruction and number of hours spent by parents for coaching at home.

Children with learning difficulties/disability had 2-4 times more emotional problems and low in academic achievement than their peers in other group emotional problems viz., of thought disorder, verbal aggression, physical aggression distractibility, somatic concerns, non-compliance, withdrawal, depression, low self esteem, hyperactivity. Girls performed better than boys irrespective of their difficulties and boys with learning difficulties/disability had relatively low academic achievement indicating learning difficulties as one of the important cause of failure in school. A high prevalence of learning difficulties/disability is an alarming condition that needs attention and early intervention.