Review of Literature
Review of literature is a key step in research process. The typical purpose for analyzing a review existing literature is generate research question to identify what is known and what is not known about the topic. An attempt has been made here to present a brief resume of the available literature on the issue relevant to the present study under the following sub heads:

2.1 Learning disabilities among children.
2.2 Factors related to learning disabilities.
2.3 Prevalence of Specific Learning Disabilities.
2.4 Parental and Teachers awareness about learning disabilities.
2.5 Remedial Strategies.

2.1 LEARNING DISABILITY AMONG CHILDREN

Children who experience difficulties in academic learning have undoubtedly existed throughout the history of formal education. It has only been recently, however, that children who appear to have average intellectual abilities but fail to learn have been assigned diagnostic labels. This group of children generally reported to as having “learning disabilities” poses an important challenge for researchers and represent a significant risk to physical and psychological health as well as to personal life fulfilment. Up to 10 percent of the population is affected by specific learning disabilities, such as dyslexia, dyscalculia and autism which translate to two or three students in every classroom (Wood, 2013).

Gauthier and Schorzman (2012), reviewed the findings of many others in the area of reading comprehension and student engagement. They looked further than the original challenge of the mechanics of reading which are often so difficult for students with disabilities on to the next level which is to help students derive meaning from text.
According to Vijayalaxmi et al. (2012), the prevalence of specific learning disabilities was 15.17% in sampled children, whereas 12.5%, 11.2% and 10.5% had dysgraphia, dyslexia and dyscalculia respectively among children aged 8-11 years from third and fourth standard in a South Indian city. The study concluded that the prevalence of Specific Learning Disabilities is at the higher side of previous estimations in India which express the need for more prevalence studies, remedial education and policy interventions to manage Specific Learning Disabilities at mainstream educational system to improve the school performance in Indian children.

Specific learning disability (dyslexia, dysgraphia, and dyscalculia) afflicts 5-15% of school-going children. Over the last decade; awareness about this invisible handicap has grown in India. However, much needs to be done to ensure that each afflicted child gets an opportunity to achieve his or her full academic potential in regular mainstream schools. In order to achieve this ideal scenario, all regular classroom teachers should be sensitized to suspect, and trained to screen for this disability when the child is in primary school. School managements should become proactive to set up resource rooms and employ special educators to ensure that these children receive regular and affordable remedial education; and be diligent in ensuring that these children get the mandatory provisions both during school and board examinations. Once specific learning disability is recognized as a disability by the Government of India, these children with the backing of the Right to Education Act would be able to benefit significantly. It is often difficult to determine whether a child truly has a disability or simply has not been exposed to information. This is often the case in the primary grades. An epidemiological study in British school children in the age range of 9-10 year found the prevalence of specific reading difficulties, specific arithmetic difficulties and combined specific arithmetic-and-reading difficulties to be 3.9%, 1.3% and 2.3% respectively (Krande et al., 2011).

Jitendra and Gajria (2011) fully support that students can make great gains in this area when teachers use strategies to help students retain and transfer their learning. They suggest graphic organizers, mnemonic strategies, story maps and others across content areas. So much effort is put forth in the primary grades by both
students and teachers in learning the mechanics of reading that becoming a fluent reader seems unlikely for many students but it is an attainable goal for many with the right supports in place.

Findings of a study done by Donnell and Mitchell (2011), suggested that in determining if a student has severe learning disabilities, teachers should compare the student’s current levels of achievement with their academic ability.

According to Julie and Kannan (2010), an affected child can have normal or above average intelligence. That is why; a child with a learning disability is often wrongly labeled as being smart but lazy. A learning disability can cause a child to have trouble in learning and using certain skills. The skills most often affected are: reading, writing, listening, speaking, reasoning, and doing math.

It is often difficult to determine whether a child truly has a disability or simply has not been exposed to information. That is often the case in the primary grades. Factors that are currently associated with dyslexia that are structural and functional brain related factors, genetic factors, genetic correlations, procedural timing of sequences in task accomplishment, processing speed, inter hemisphere transfer, difficulty in automatising skills, working memory difficulties, phonological deficit, language features, co morbidity between learning disabilities, literacy achievement levels and role of I.Q. in diagnosis were highlighted by Everatt and Reid (2009).

David and Patricia (2008), conducted qualitative exploratory study on Clinical experiences of students with dyslexia with the aim to explore the clinical experiences of student nurses with dyslexia and its potential influence on their practice. The investigation involved tape-recorded interviews with a convenience sample of 18 nursing students with a formal dyslexia diagnosis. Data was collected from 2003 to 2004 and were analyzed using thematic analysis. The findings of the study showed that participants of the study expressed number of personalized approaches in managing their difficulties in practice. Some participants contended with discrimination and ridicule, often choosing not to disclose their disability.
Positive aspects of dyslexia were never raised or acknowledged by participants. The researcher concluded that greater awareness of the practice-specific needs of dyslexic students is required to ensure appropriate support and public safety. The reading disability (Dyslexia) has been traditionally diagnosed on the basis of discrepancy between IQ scores and reading achievement scores (Joshi & Aaron, 2008).

Gretchell et al (2007) conducted a study that compared the difference of children with dyslexia and without. Twenty six individuals were dyslexic and 23 individuals were not. Individuals were tested with the Test of Gross Motor Development and Movement Assessment Battery for Children. Individuals with dyslexia performed significantly lower than the control group (individuals who are not dyslexic). Thus, proving the similarities of how it will be hard for someone who has LD to complete the education system.

A study by Synergy (2006) revealed that Learning disability is a general term that describes specific kinds of learning problems. LD is a neurological condition that affects a child’s brain and impairs his ability to carry out one or many specific tasks. These children are neither slow nor mentally retarded.

According to Foreman (2005), disability labels and classifications become “laden with meaning”. Disability labels can assume substantial power in defining individuals’ opportunities and limitations. Dyslexia is one of the most common SLD, affecting 80% of all those identified as Learning Disabled. Karande, et al (2005) conducted Cross-sectional study on cognitive abilities between groups of children with specific learning disability having average, bright normal and superior nonverbal intelligence to assess whether cognition abilities vary in children with specific learning disabilities having different grades of nonverbal intelligence. For this study, 95 children with specific learning disabilities (aged 9-14 years) were assessed. A battery of 13 Cognition Function tests (CFTs) devised by Jnana Prabodhini's Institute of Psychology, Pune based on Guilford's Structure of Intellect Model was administered individually on each child in the four areas of information viz. figural, symbolic, semantic and behavioral. The study revealed there were no
statistically significant differences between their mean CFTs scores in any of the four areas of information. The researcher concluded that Cognition abilities are similar in children with specific learning disabilities having average, bright-normal and superior nonverbal intelligence.

A research conducted by Stojanovik and Riddell (2005), revealed the difference between expressive and receptive language skills in a sample of 17 children with specific reading difficulty aged between 7 and 12 years. The study samples were administered a battery of two receptive and two expressive language measures. The results of the study shown that as the neuro-anatomical model would predict, the children scored significantly lower on tests of receptive than on tests of expressive language skills.

There have been great deals of the research findings of the concept of nonverbal learning disabilities (NLD), the diagnosis standards and screening, neuropsychology, cognition, sociality and instructional intervention. It is of great significance to note there are some existing problems to cope with, such as inconsistency of NLD definition; lack of the systemic researches on NLD; lack of effective intervention models and experimental researches. Parents do not recognize their children’s learning disabilities it might be due to them not knowing what these disorders are and therefore not addressing them (Zhaoping and Guoliang, 2005).

Sheri et al. (2004), studied that increasingly, students with learning disabilities are being educated in the general education setting by general education teachers. This trend requires general education teachers to use instructional practices that benefit all students. This article reviews the literature from 1986 to 2002 in order to identify and examine academic interventions for middle and high school students with learning disabilities that can be applied to various subject areas. Developmental learning disabilities are deviations from the normal development of psychological or linguistic functions. These disabilities often, but not always, are associated with problems in academic achievement. Some children with perceptual motor deficits cannot read; others with the same perceptual-motor difficulties do read. In some instances the association between developmental and academic
difficulties reflects a lack of pre-requisite skills. For example, before children can learn to write they must develop certain skills -eye hand coordination, memo- and sequencing abilities. To learn to read, children need visual and auditory discrimination ability and memory, the ability to see relationships and to learn from the repetition, and the ability to concentrate their attention.

A study by Slavica (2004), revealed the distinctive features of phonemes and phonological processing during reading the phonological decoding or the process of detection and discrimination of phonemes of certain language expression and phonological encoding or the process of selection and producing of phonemes which form language expression, represent the basis of phonological processing (phonological data processing). Empirical research has shown that certain abilities of phonological awareness are connected by cause with early achievement in reading and writing and those disabilities in these skills significantly contribute to disabilities of reading/dyslexia and writing/dystrophic. So, results of many researches imply basic phonological defenses as a cause of many specific disabilities of speech and writing.

The term learning disability which is the concept that all individuals have variations in learning abilities in various areas was proposed by Levine (2003) to describe a broad group of children who are struggling to learn and failing in school. Arguing against the use of labels, Levine contends that we should focus on determining where the student is experiencing a breakdown in learning. He believes that these children have different kinds of mind and that educator and parents must understand the individual differences and needs of these children.

In India, it is estimated that at least five students in every average-sized class has Learning Disabilities (Thomas, Bhanutej & John, 2003). But these students are often unrecognized in the crowded schools due to the invisible nature of the disability unlike other visible disabilities. Students with Learning Disabilities have problems in academic areas for a long time, but those problems are often unnoticed by the teachers in the crowded classrooms.
Kenneth et al. (2002), revealed that children with learning disabilities grow up, and although some find the road to successful, satisfying and rewarding lives, others continue to struggle and “fail” into and through adulthood. Research has indicated that successful individuals with learning disability possess a set of “success attributes (personal characteristics, behaviors attitudes and conditions) that lead them to positive outcomes. This study presents a conceptual framework for fostering success attributes in students with learning disabilities and provides suggestions for classroom activities. Late childhood tend to be overly sensitive, some emotional, social and self-concept problems often accompany a learning disability at this age. Most secondary schools have programs for this age group with learning disabilities. About 60% of all children with learning disabilities are in the 12-17 years of age group.

According to Ramaa and Gowramma (2002), the possible causes of arithmetic failure had been excluded figures for dyscalculia came out as 5.98% (15 cases out of 251) in one study and 5.54% (78 out of 1408) in the second. Results of an Asian study on the prevalence of dyslexia and probable dyslexia were found to be 6.3% and 12.6% respectively (Roongpraiwan et al., 2002). Balasubrahmanyam (2001) suggested that the incidence of language disability would be less in India as those literate in the major Indian scripts received intensive phonic training and the Indian methods of writing (orthographies) were transparent.

Many studies have focused on the role of genetics in reading, writing and language disabilities. Learning disabilities are due to genetic, other congenital and acquired neurobiological factors. They are not caused by factors such as cultural or language differences, inadequate or inappropriate instruction, socio-economic status or lack of motivation, although these and other factors may compound the impact of learning disabilities (Chadha, 2001).

Katz et al. (2001) revealed that learning disabilities are no longer thought to be school specific or to be the exclusive province of elementary school children. Frequently, learning disabilities co-exist with other conditions, including attention,
behavioural and emotional disorders, sensory impairments or other medical conditions. According to Stewart and Kluwin (2001), a processing problem, such as learning disability, occurs when the brain does not organize incoming information adequately.

A descriptive study by Brook et al. (2000), on attitude and knowledge of attention deficit hyperactivity disorder and learning disability among forty-six high school teachers was done. They were divided into two groups 25 teachers taught at an academic school (School 1); and 21 teachers taught at special education school (School 2) and dealt with Attention Deficit Hyperkinetic Disorder/Learning Disability cases regularly. The study results revealed that general knowledge about Attention Deficit Hyperkinetic Disorder (71%) and about Learning Disability (74%) was relatively low among both groups. Thirteen percent of all teachers considered Learning Disability to be the result of parental attitudes, namely ‘spoiling’ the children. In relation to Learning Disability cases, the overall scoring for positive attitude was 75%. However, this score was higher for Group B teachers. Three-quarters of the teachers favoured increasing peer awareness and comprehension to the problems LD kids encounter at school. Ninety-five percent believed Learning Disability patients should enjoy a more lenient school education. There was no correlation between teachers’ knowledge of Attention Deficit Hyperkinetic Disorder and Learning Disability and their attitude.

The prevalence of developmental dyscalculia has been reported to be around 3 to 6% in the school-aged population and is as common in girls as in boys (Shalev et al., 2000).

A research by Roberta et al. (1999) predicts success in individual with learning disabilities. Data were gathered through case records, public records, current testing in depth interviews. Changes in independent variables and dependent variables across data points are described. The composite score on the six success attributes best predicted success at year 20, Explaining 49% to 75% of variance, with either IQ or achievement making a minor contribution (0-5%). Another epidemiologic study which estimated the
prevalence of specific language impairment (SLI) in monolingual English-speaking kindergarten children, an estimated overall prevalence rate was found to be 7.4%. The estimated prevalence for boys was 8% and for girls 6% (Tomblin et al., 1997).

There are a few Indian studies on specific learning disorders. Parents and teachers usually discover the problem when the child fails to cope with school work (Nakara, 1997). Learning disabilities remains “one of the least understood and most debated disabling conditions that affect children.” (Lyon, 2008).

Agarwal et al. (1991), conducted study on Learning disability in rural primary school children at Varanasi. He used Bender Gestalt test, Piaget’s test and Indian modification of WISC for the detection of SLD in rural primary school children. A relatively high prevalence rate of almost 13% was observed in their study.

The study revealed that 12.97 per cent of those having Intelligent Quotient greater than or equal to 90 were found to have poor achievement in arithmetic test and teacher's assessment and learning disabled children had impaired perceptual maturity and conceptual grasp as observed on MISIC (Indian modification of WISC), Bender Gestalt test and Piaget's test. Learning disabilities is an unusual discipline as it contains two contrasting aspects: one, intellectual and other practical (Wong, 1991).

Vogel (1990), gender research reported that there are as many girls with learning disabilities as boys, but they are not being identified. Boys tend to exhibit more physical aggression and loss of control; however, they also exhibit visual-motor abilities, spelling ability, and written language mechanical aptitude. Girls with learning disabilities tend to have more cognitive, language, and social problem and to have severe academic achievement deficits in reading and math. Girls tend to be more verbal and display less physical aggression.
2.2 FACTORS RELATED TO LEARNING DISABILITIES

Environmental factors are conditions in the home, community and school that adversely affect the child's normal development socially, psychologically and academically. These include traumatic experiences, family pressures, instructional inadequacies, and lack of school experiences. Although these conditions affect academic progress, a child is not considered learning disabled unless the environmental conditions have contributed to deficits in attention, memory and other psychological processes.

A study carried out by Singh and Dhanda (2009), in Haryana on 60 respondents from various schools of rural area of Hisar district, with low academic performance in the class were selected for the study which were of the age between the 6-8 years. The mothers of LD children were also interviewed to find out the opinion of mothers and causes responsible for disability among the children through self-structured interview schedule. It was observed that the parents who were not able to provide their children with good resources, proper care, and academic and play material suffered from two or more learning disabilities. Parents also had opinion that due to lack of resources, education and enough motivation, they could not provide their children healthy environment for learning.

Fries and Decker (2008), conducted an extensive family study of reading disabilities. They administered a series of psychometric tests to 125 reading disabled children and their parents and siblings and 125 control families. The reading disabled children obtained lower scores on some cognitive tests (spatial reasoning, symbol processing speed). These researchers found that the data conclusively demonstrate "the familial nature of reading disability". The physical conditions that can inhibit a child's ability to learn include visual and learning defects, confused laterality and spatial orientation, poor body image, hyperkinesias (hyperactivity) and undernourishment. Environmental factors are conditions in the home, community and school that adversely affect the child's normal development socially, psychologically, and academically. These include traumatic experiences, family pressures, instructional inadequacies, and lack of school experiences. Although these conditions affect academic progress, a child
is not considered learning disabled unless the environmental conditions have contributed to deficits in attention, memory and other psychological prose.

A study was conducted on the role of maternal personal resources (mother's attachment style, coping strategies, and affect) in moderating the effects of learning disabilities (LD) on children's socio-emotional and behavioural adjustment (self-rated sense of coherence, loneliness and hope; mother-rated child behaviour checklist measures) as well as on their secure attachment among school-age children with LD. The sample consisted of 110 mother-child dyads: 59 mothers and their children with LD (29 boys, 30 girls) and 51 mothers and their typically developing children (21 boys, 30 girls) from the same schools. Preliminary analyses indicated significant group differences on all children's measures and in several of the maternal personal resources. Mothers' low use of avoidant coping strategies and less avoidance in close relationships with significant others were found to moderate the effect of children's disabilities on children's level of loneliness, feelings of hope, and secure attachment (Michal, 2007).

According to Smith (2006), children and adolescents with learning disabilities have high rates of mental health problems and behavioural difficulties. Co-morbid disorders such as epilepsy, autism and attention-deficit hyperactivity disorder are common. Despite this, many areas are failing to provide a psychiatric service for these young people and their families. The children suffer as a result and may have to move away from home unnecessarily, at enormous emotional and financial cost. Each area should have a specialized multidisciplinary health team working closely with colleagues from education and social services to assist these complex children and give them to best chance to fulfil their potential.

Karanth (2004) has pleaded the case for environment factors that are associated with learning disability. As enumerated by her, these include poverty, parental illiteracy, lack of exposure to literacy skills in the home environment, lack of access to pre-school instruction, lack of command over instructional medium, overcrowded classrooms and poor instruction. Thus, she asserts, “Often learning disabilities reflects the accumulated effects of several of these risk factors”.
A study by Suresh and Sebastian (2003), revealed large incidence of learning disabilities in rural areas of Kerala, attesting to the view that learning disabilities is a widely prevalent, life span disorder. There are many associated features of learning disabilities that are specific to the Indian context. These include the fact that bilingualism and multilingualism is common, classroom conditions are far from ideal and socio-economic factors. High risk neighbourhoods and poor living conditions add to the factor of being more vulnerable to having a learning disability.

Margai and Henry (2003), used primary data and analysed clusters of people in a distinct part of a community near a toxic waste place, living in poor neighbourhoods and living in poverty. The results confirmed that a majority of the people with a learning disability came from some socio-economic indicator such as poverty, subdivided housing and lower adult educational attainment. Individuals with a learning disability will rely more heavily on public assistance/welfare than individuals who do not because of their lack of knowledge.

The risks to development can come both from direct threats and from the absence of normal, expectable opportunities. Besides such obvious biological risks like malnutrition or injury, there are socio-culture risks that impoverish the developing individual’s world of essential experiences and relationships and thereby threaten development (Garbarino, 2002).

According to Centre for mental health in schools at UCLA (2001), a system approach may help in understanding the complex interplay of biological, psychological, social and cultural forces in early development risks and their amelioration. The experience of poverty has extremely damaging effects in early childhood. Scientific evidence has also begun to document that extreme poverty early in life has an even greater effect on children’s future life chances and development than less extreme poverty later in childhood.

Hoen and Lundberg (2000) found that cultural, social and educational factors are having critical importance when trying to understand why some individuals have an unsuccessful relationship with the written language. They indicate that individual
biologically determined factors are also important. While accessing risk to families from the social environment, economic deprivation or poverty has often been identified as the principal villain.

A study by Snow et al. (2000), identified several factors as constituting risk factor for learning disabilities. These include poor schools, low income/poor neighbourhoods, limited proficiency in medium of instruction and dialectal difference in language. Many of these factors are pervasive in the Indian socio culture context and educational system and would require closer examination. Perhaps an ecological approach would be a more satisfactory approach and would enable us to study the many different factors that contribute to learning disabilities.

Nitasha et al. (1999), conducted study on sixty children selected from five schools from Hisar city. A list of children in the age group of 6 to 8 years from three classes was obtained from the class teacher and 20 children with poor performance in each class were selected. Parents of these children were interviewed to explore the factors associated with learning disabilities. Different areas of learning disabilities; memory, perception, attention and reading were measured with Mc Carthey Scales of children’s abilities and VMI. (Visual Motor Integration). Results revealed that majority of children had poor VMI followed by memory, reading disabilities, perceptual disabilities and short attention span. Socio economic status of the family may be associated with learning disabilities.

Early remediation can greatly reduce the number of children meeting diagnostic criteria for learning disabilities. He has also suggested that the focus on learning disabilities and the provision of accommodations in school fails to acknowledge that people have a range of strengths and weaknesses, and places undue emphasis on academic success by insisting that people should receive additional support in this arena but not in music or sports. Although, in contrast to the statement above if learning disabled students are identified by research criteria
as opposed to teachers, the ratio of boys to girls (having a learning disability) is equal (Sternberg, 1999).

Bandian (1999), in dealing with learning disabilities no significant gender differences were found in a study of more than 400 children. He found that if identified by research criteria, there were no differences in gender, but if learning disabilities were identified by general education teachers and/or special education teachers, there was twice as many boys identified compared to girls. Alongside that, there was another statement said by supported the claim stated above “boys were twice as likely to be identified by teachers as in need of a learning disability programs compared to girls.”

A study by Panda (1995), revealed that academic and scholastic achievements are negatively affected by social disadvantages. Scholastic achievement of disadvantaged children is lower than that of advantaged children. Study further showed that deprivation had a deleterious effect on cognitive functioning, motivational patterns, aspiration levels and academic achievement. As far as achievement is concerned, children from socially disadvantaged backgrounds are victims of unfavourable teacher expectations.

The physical appearance of students with learning disabilities appears to be an important factor in influencing the social status of a student in his/her peer group. It was seen that some students who are learning disabled may at risk for negative evaluation in this area because their social awareness is such that they can appear quite unkempt and at times their cognitive disabilities are accompanied by subtle physical differences (Odem et al., 1992). According to Warger (1991), peer tutoring benefits friendships, social skills, academic class work, and positive attitudes and interaction between children with learning disabilities and their typical peers.

An ecological perspective constantly reminds us that child development results from the interplay of biology and society, from the characteristics children bring with them into the world, and the way the world treat them, from nature and nurture. It is important to recognize that the habitat of the child at risk includes
family, friends, neighbourhood and schools as well as immediate forces that constitute the social geography and climate (for example laws, institutions and values), and the physical environment. The interplay of these social forces and physical settings with the individual child defines the range of issues in the forefront of an ecological perspective (Garbarino, 1990).

2.3 PREVALENCE OF SPECIFIC LEARNING DISABILITIES

There is no exact statistics available about the percentage of school going children affected with the Specific Learning Disability. According to studies conducted in different parts of world, the prevalence of specific reading disorder (SRD) is 4% of school-age population. The prevalence of specific spelling disorder (SSD) is almost the same as that of SRD and the prevalence of specific disorder of arithmetic skills (SDAS) is 6% of school-age population. In India, very few focal studies have been conducted regarding the prevalence of SLD and the results are variable. In a multicentre study on child psychiatric epidemiology (ICMR), the prevalence reported by NIMHANS is 7.2% and the prevalence of SRD reported by KGMC Lucknow (under the same multicenter study) is 0.52%. The prevalence of SLD in a study conducted at AIIMS in 1991 on school children was 4.87 per 1000; currently it is estimated around 9%. The boys were more commonly affected than the girls, the ratio being 4:1 (boys is to girls). No national level study of the incidence of learning disabilities has been conducted in India. A study conducted by the Institute of Neurology in Kerala gave the estimation of 10%. Study conducted by Samveda, in Bangalore, estimated the incidence at 15% of the child population (Mehta, 2011).

An epidemiological survey of 1403 children between the ages of 8 and 12 in the Southern Indian district of Calicut (Kerala State) showed a prevalence of childhood psychiatric disorders of 9.4%. There were strong associations with socio-economic parameters but, more importantly, with both general school under achievement and specific difficulties with reading and vocabulary (Hackett et al.; 1999). For the city of Bangalore, prevalence was higher: 13 % for psychiatric disorders among 4 to 16 year olds; up to 10% showed scholastic difficulties and up to 2% showed co-occurring psychiatric disorder and school underachievement (Srinath et al., 2005).
It is generally assumed that 10-15% of children receiving elementary education, have problems in one or more areas of learning (reading, writing, spelling or maths). These estimates may be higher for rural and poverty stricken areas. Despite the large estimates, practically no special services exist in this country for these children. As a result many drop out of school due to lack of appropriate intervention programmes. Learning disabilities, in education of children with special needs may have a variety of meanings and labels depending on experience, perspective, and information about the child in question, family background and socio-economic status. This enigma remains as children exhibiting learning disabilities may manifest a wide variety of social and educational problems. Children who have difficulties in school are neglected and ignored in the current school system. There are many types of learning disability and there is a great deal of variation with in individuals. Symptoms and behaviours vary a great deal and this further complicates this issue. A child can be excellent in mathematics and yet may do very poorly in reading and writing. Another child may find it very difficult to write sentences in English but have good verbal skills. Even within subject areas, there may be a great deal of variation. India is thought to have approximately ninety million people with varying degrees of learning disabilities and an average class in schools has about five students with learning disabilities. Yet we do not have a clear idea about the incidence and prevalence of learning disabilities in India (Karnath, 2004).

Researches indicate that approximately 10-14% of the 416 million children in India have LD. Dyslexia is one of the most common SLD affecting 80% of all those identified as Learning Disabled. According to a study conducted in South India, the incidence of dyscalculia was reported to encompass 6% of all school-aged children (Karande, et.al 2005)

Ramaa (2000) stated that at school levels learning disabilities still goes undetected because of the lack of teacher training. The 149-year-old University of Mumbai does not have a single course that trains teachers to be special educators to equip them to help students with learning disabilities (Birla, 2001; Banerjee, 2003). SNDT College has a teacher-training course in special educational needs; however,
it encompasses all areas of special education and is not focused on learning disability. Children with learning disabilities are considered as burdens to the school. Therefore, Padegar (Coordinator of Maharashtra Dyslexia Association) suggested ‘it is easier to label such students as dumb or lazy and forget it or simply ask them to leave the school.’ Khatib (2007), studied the General Education Teachers Knowledge of Learning Disabilities in Jordan. Four hundred and five regular classroom teachers were taken as sample for the study who was teaching 1st to 6th grade students in 30 schools in 3 Jordanian districts. The findings of the study reveal that the teachers had a moderate level of knowledge about learning disabilities.

The child and adolescent psychiatry clinic at Post Graduate Institute of Medical Education and Research (PGIMER), India lacks appropriate tests to identify and access children suffering from learning disability. The institute has to manage from the battery prepared by NIMHANS, Bangalore, whose norms are based on a very small number of children belonging to Karnataka and the surrounding areas. The norms are constructed on very small samples (about 10 children in each age-group). Everyday there are two to three children who visit PGI for assessment of learning disability. More than 100 children are diagnosed with learning disabilities every year. Epidemiological studies of the prevalence rate of learning disorders in Chandigarh are not available. The assessment of children suffering with LD is also a problem because we do not have an appropriate battery for identifying such children in the northern population. According to Child and Adolescent Clinic, PGI statistics, 8-10 per cent of the clinic population suffers from LD. Considering the prevalence rate of the clinic population, very little research effort has been directed towards LD (Kohli et al, 2014).

According to the Indian Academy of Paediatrics, around 5 to 15% of school children have SpLD (specific learning disabilities), with dyslexia (difficulty in reading, spelling, speaking and listening skills) being the most common at 2-18% followed by dysgraphia (difficulty in writing skills) at 14% and dyscalculia (difficulty in mathematical abilities) at 5.5%. Many of these learners have been and still exist in regular schools where they are not noticed. For effective teaching and learning for these learners, there was need to find out the individual’s unique needs
and their numbers in order to plan and provide quality education for them (Choudhary et al., 2012).

Ramma and Gowramma (2002), in their study of dyscalculia among primary school children in India mentioned that 5.98 percent of children were suffering from dyscalculia and 51.27 percent of children had reading and writing problem. The alarming increase in number of such children necessitates the need to make parents aware of reasons for disability, effects of disability, ways of helping the child and understanding the skill area and limitations of their child. Viewing scholastic backwardness in terms of poor academic achievement or repeated failure in grades, several Indian school surveys in the past decade have recorded prevalence rates that range between 20 and 50%. A study of scholastic backwardness among 5-8 year old school going children found out that 10.23% children have scholastic backwardness. No gender difference was noticed. The rates of specific difficulties such as reading, writing and arithmetic were found to be 4.69%, 5.15% and 15.96% respectively.

2.4 PARENTAL AND TEACHERS AWARENESS ABOUT LEARNING DISABILITIES

The problems of children with specific learning disabilities have been a cause of concern to parents and teachers for some time. Paediatricians are often called on to diagnose specific learning disabilities in school-age children. Learning disabilities affect children both academically and socially. These may be detected only after a child begins school and faces difficulties in acquiring basic academic skills. A learning disability can cause a child to have trouble learning and using certain skills. The skills that most often affected are reading, writing, listening, speaking, reasoning, and doing math. UNESCO (2006), observes that, despite continued overall global progress at the primary level, too many children are not in school, with some of them dropping out early or not reaching minimal learning standards. Governments urgently needs to identify groups of children most likely never to enroll in school, in addition to those who drop out as a first step in implementing policies that reach out to the excluded and improve the quality, flexibility and relevance of education.
A study was done in Mangalore in 2007, among 75 school teachers regarding effectiveness of self instructional module of learning disabilities among school children on school teachers. The mean percentage of knowledge in the pre-test was 57.35% with the mean \( \pm \) SD 21.22\( \pm \) 3.818 and mean percentage of knowledge in the post-test was 91.67% with mean \( \pm \) SD 33.92 \( \pm \) 1.700. Overall findings of the study revealed that 52% of teachers had poor knowledge on learning disabilities and only 2% had good knowledge on learning disabilities (Karande et al., 2011).

A research study was conducted to assess the awareness and sensitivity among parents, teachers, school management and counsellors regarding learning disability in 35 Schools of Mumbai. About the conceptual understanding of learning disabilities 52% teachers had no awareness, 37% had minimal awareness and 11% had adequate awareness. About etiology 72% had no awareness, 14% had minimal awareness and 14% had adequate awareness. About the types of learning disabilities 75% of teachers were not aware (Dalwai et al., 2010).

In India, around 13 to 14 per cent of all school children suffer from learning disorders. Unfortunately, most of school fail to lend a sympathetic ear to this problem. As a result, these children are branded as failure (Malik, 2009). The Tata interactive learning disability forum 2008, held in Mumbai on November 29, 2008 and in Kolkata on December 2, 2008 focuses on urgent need to address learning disability issues. Focusing on the theme of ‘Special Deeds for Special Needs’, the TDLF 2008 underlined the importance of early remedial action to help learners with special needs.

Krande et al. (2011), stated that specific learning disability (dyslexia, dysgraphia, and dyscalculia) afflicts 5-15% of school-going children. Over the last decade; awareness about this invisible handicap has grown in India. However, much needs to be done to ensure that each afflicted child gets an opportunity to achieve his or her full academic potential in regular mainstream schools. In order to achieve this ideal scenario, all regular classroom teachers should be sensitized to suspect, and trained to screen for this disability when the child is in primary school. School managements
should become proactive to set up resource rooms and employ special educators to ensure that these children receive regular and affordable remedial education; and be diligent in ensuring that these children get the mandatory provisions both during school and board examinations. Once specific learning disability is recognized as a disability by the Government of India, these children with the backing of the Right to Education Act would be able to benefit significantly. It is often difficult to determine whether a child truly has a disability or simply has not been exposed to information. This is often the case in the primary grades.

2.5 REMEDIAL STRATEGIES

A study by Vig (2012), revealed that intervention had significant and positive impact on the knowledge level of mothers. The hands on experiences provided to the mothers to develop stimulating material for their children made them capable of implementing their knowledge to practically help such children who were facing problems in reading, writing and mathematics. The cornerstone of treatment of specific learning disability is remedial teaching. There is a need to formulate Individualized Educational Program to reduce the child’s deficiencies identified during assessment by using specific remedial strategies.

Implication of oral reading by the teacher, prior to the study, there were only occasional times when this occurred in the regular education classroom and not at all in the pull out classroom. The daily schedule was altered to allow for thirty minutes of oral reading a day from a chapter book. There were also planned activities to allow the children to interact and respond to the literature in both the regular and pull out classroom. The students were assigned illustrating activities and engaged in small group discussions. Reading comprehension is also a challenge for students with reading difficulties and the research indicates that literature circles are positively impacting outcomes (Gauthier & Schorzman, 2012).

Reading comprehension is also a challenge for students with reading difficulties and the research indicates (Jitendra & Gajria 2011) that literature circles are positively impacting outcomes. Additionally, reading aloud to students from
print that is above their independent reading level and then engaging them in conversations and activities that allow demonstration of knowledge in a ways other than paper/pencil has been shown to increase the level of interest and subsequently achievement. Again, it all comes back to interactive teaching methods that encourage student engagement. The biggest idea is in the area of meta-cognition. If teachers want students to learn a strategy that will help them and then be able to transfer that strategy to the next task, it is important to help students about thinking. Walking through the process of thinking out loud is a great tool for students and one that will gather strength over time. The details of this process are important and the practice has to be consistent over time for students to really benefit.

Krishnakumar (2011), provided individualized education for 15 SLD children for a period of 4 months. They were divided into three equal groups and were given individualized training in reading, writing and mathematics for 5 hours a week in two sessions. After the remedial training, 87% of children had improvement in mathematics, reading or writing and 47% had improvement in all the three areas.

According to the study conducted by Yung-Ju (2011), on students with LD remain in the same classroom with other students through most of the day, yet they do spend 2 to 4 hours a week with specific instruction to help to bring them up to remedial learning. He summarizes the education initiative as a shift in focus from “describing a group of students to providing them with the appropriate services and education” needed to suit their LD. Parents of students with LD need help to educate their children and to deal with their problems, but their own needs also require attention (Dyson, 2010). Lyons (2010), concluded that children with reading disabilities are due to linguistic and cultural background and limited exposure to the language. Therefore, early identification of young children’s learning problem and timely intervention are very much essential to minimize the prevalence of learning disabilities. Young children can be prepared systematically from the early age to make the link from spoken to written language. This preparation may follow the form of games, songs, dances and other playful activities to make learning fun.
Sze (2009) addressed the topic of mislabelling students. She explained that students who have trouble learning to read do not always have a processing disorder as the root cause. She proposed early intervention and assessment to address individual student needs. In order to plan a diagnostic prescriptive, remedial or preventive programme for children with Learning Disabilities the prime necessity is to find out the kinds and types of Learning Disabilities in children that are most commonly expressed by our teachers. Early intervention is the key to prevent or minimize the majority of school age children's reading problems, regardless of the underlying cause for the problems and it is designed to enhance the academic functioning of a child (Parikh, 2004).

A study carried out by Magara (2009), revealed that learning together by parent and child attending church services, consulting books and reading, planning, doing community participation, family visits and homework together, has contributed in coping with learning disability. Intervention with the students themselves and treating their problems is necessary, but it is also necessary to take their family into consideration. The article from The Hindu (March 13, 2011), Indian English newspaper reported the struggles and plights of the dyslexic students and their family members how they get affected adversely due to lack of knowledge and understanding of the difficulty of these students among the teachers and school administrators.

The difficulties faced by the family in getting admission in a school to a dyslexic, state that “My granddaughter was denied admission to one of the schools which receives grants from the Government. In another school, children were given promotion and asked to leave the institution”. The reasons behind all these issues are due to the insufficient knowledge about SLD in India (Yasmeen, 2009).

Shwetarai (2008), studied the effects of remedial intervention in children with learning disability aged 10-15 years. Children underwent 20 sessions of remedial intervention at least one per week. After the Intervention, the SLD group showed an improvement in academic skills and self-esteem.
According to a study conducted by Shreedevi and Mayuri (2008), to determine the effect of child’s learning disabilities on parents. 60 parents of learning disabled children were selected by purposive random sampling from twin cities of Andhra Pradesh. Results revealed that the major determinant factors for these effect/stresses were education of the child, family income severity of learning problems, presence of associative disorders, approach coping, negative perceptions and attitudes towards learning disabled children, remedial programmes and disciplinary practices.

The effectiveness of instruction focused on teaching students with learning disabilities (LD) to solve 1- and 2-step word problems of varying types. Three students with LD in Grade 8 participated in the study. During the treatment, students received instruction in diagram generation and a strategy that incorporates diagrams as a part of the procedure to solve word problems. The results indicated that all students improved in the number of diagrams, they used and in their ability to generate diagrams. The word problem solving performance increased. Moreover, the students generated and used diagrams to solve other types of problems. Overall, the students were very satisfied with the instruction and would continue to use the diagrams and the strategy to solve word problems in other classroom settings investigated by (Garderen, 2007).

Karande et al.(2007), conducted a study to find out the impact of an education program on parental knowledge of specific learning disability at Lokmanya Tilak Municipal Medical College and General Hospital Mumbai with the aim to investigate parental knowledge of special learning disability (SLD) and to evaluate the impact of an educational intervention on it. The study result shown that after the intervention, there was significant improvement in parental knowledge on meaning of the term specific learning disabilities. The researcher concluded that Parental knowledge of their child's specific learning disabilities significantly improved by a single-session educational program. The results of the studies reviewed support the need for a comprehensive assessment and intervention for students with LD (Gortmaker et al. , 2007). Montague (2007), suggested that students with LD are extremely poor at self- regulation. She argued that self regulation must be explicitly taught to these students. This helps them monitor and control their
cognitive abilities as they learn challenging tasks such as problem solving. The growing body of research on students with learning difficulties show that they can become better spellers if their learning is not left to chance (Vedora & Stromer, 2007). According to Jerman and Swanson (2006), cognitive mechanisms such as memory and monitoring processes influence the learning of math. The pros and cons of an online course for pre-service teachers with learning disabilities (LD). In light of the importance of online learning as a teaching tool, a three year study was planned to face the challenge of adapting an online course to LD students.

The online course focuses on constructing a science teaching unit and is based mainly on learning scientific concepts, fostering lab skills through relevant experiments, and finally practicing it in school. This study carefully reports on a slight but explicitly constant edge of LD students’ achievements in comparison to ‘Regular’ students (Shonfeld & Ronen, 2006). Clikeman (2005), revealed that teachers of regular primary schools can keep students in need of special support in their regular classes. If provided with the right support and intervention, a child with learning disabilities can help the child to achieve success in school and teachers can help to achieve success by both fostering the child’s strengths and knowing the child’s weakness. The danger with not paying attention to individual differences is that we will repeat the current practice of simple assessments in curricular materials to evaluate a complex learning process and to plan for interventions with children and adolescents with markedly different needs and learning profiles.

Specific learning disabilities has still not been diagnosed as a disability by many state governments in India. Perhaps the reason for this condition is mainly due to the teacher education curriculum adopted in India, in which the special education is included as an optional subject not as a compulsory subject. But the problem with the system is that these Specific Learning Disabled students are found in the mainstream schools (Karande et al., 2005).

Rajakumar et al. (2005), suggested that teachers need training to address the special needs of children. First of all, the teacher educators are need to be trained to identify SLD students, adopt the new teaching strategies, and accommodate the SLD students then only the prospective teachers can be trained by them. A study
by Yinghe and Xiaomei (2005), reported that strategy refers to goal-directed cognitive operations used to aid problem solving, which is responsible for the execution and control of underlying information process, and its effects on individual learning. So, the research on children with learning disabilities from strategic perspective was introduced. This article reviewed and analyzed the research in this field, explored some issues as; the relation between learning disabilities and strategy, the strategic performance of children with learning disabilities, the reason of their strategy deficiencies. Efforts aimed at including students with learning disabilities and slow learners can be centralized so that the board succeeds in referring no more than 4 per cent of the number of the students to the special school (Meijer & Pijl, 2004).

Cass et al. (2003), investigated the effects of manipulative instruction on the solving of area and perimeter problems by students with learning disabilities. A multiple baseline design was employed to test the effect of manipulative instruction on the perimeter and area problem-solving performance of middle and high school students who had been diagnosed LD in the area of mathematics. Modelling prompting/guided practice, and independence practice in conjunction with manipulative training were employed to teach both perimeter and area problem skills. Analysis of data revealed that the students rapidly required the problem-solving-skills, maintained these skills over a 2-month period, and transferred these skills to a paper and pencil problem-solving format. Three specific interventions strategies have been recommended capitalizing on classroom literacy activities, utilizing classroom scripts in role play, and facilitating problem solving.

These are promising interventions that could be used to enhance social competence as Donahue (2002) has pointed out that children’s access to the academic curriculum is dependent on their ability to engage in cooperative peer group activities. Fuchs and Owen (2002), concluded that when elementary-age students with mild disabilities are taught a strategy to solve math word problems, their performance on process and product was better than that of students who received conventional instruction. In addition, their study showed that an emphasis on transfer skills and peer mediation improved student performance. According to
Smith and Wisniewski (2002), many students with disabilities have trouble using manipulative because they forget how many they had counted by the time, they are ready to transfer the answer to their worksheet. With touch math, students did not have to leave their worksheets to record answers. Students were taught that every number, one through nine had touch points that corresponded to the digit’s value.

Stone (2002), described that instructional interventions include scaffolding (that are two notions of support and relinquishment). Scaffold instruction supports the child’s construction of new understandings, but it does so in a manner that allows for the eventual removal of that support. Such instruction has been as a powerful force in helping children to take ownership of new knowledge and procedures. Jones (2001), stated that these children also have difficulty detecting their spelling errors. Error detection or teaching them to monitor their own misspelled words is crucial to their growth as writers.

Research has also shown that inadequate knowledge about disabilities leads to negative attitudes toward persons with disabilities (Saravanabhavan & Saravanabhavan, 2001). Therefore, it is the predominant need to train the general teachers to teach these students in an inclusive school set up. Nolen (2001), found that quality of classroom environment adds to the probability that children would profit from interventions that take place in the classroom. The classroom as a community of practice in regular primary education could elicit learning opportunities different from those offered in special education. A study conducted by Darch et al. (2000), explained that students with learning disabilities have difficulties because they are less skilled at deducing/using spelling strategies, understanding their rules or since they do not use their knowledge of sound symbol correspondences effectively. They often substitute an incorrect vowel or leave out the vowel altogether. Montague et al. (2000), described a research based instructional program “Solve It!”designed to help students having difficulty in mathematics to solve word problems. It helped the students learn to understand mathematical problems, analyze information, develop logical plans to problem solve, and evaluate solutions. “Solve It!” provided teachers with proven instructional techniques that helped their students acquire and effectively utilize cognitive processes and self regulation.
Interventions will not be effective until we have a deeper understanding of the interventions contributions of individuals’ database of experiences, social goals, and self-efficacy, and the feedback they receive from peers. Many studies have also described the problems experienced by children with language learning disabilities is lower who frequently engaged in peer interaction (Brinton et al., 1997). A study by Jones et al. (1997) reported that the curriculum, assessment, and professional teaching standards of the National Council of Teachers of Mathematics (NCTM) called for a shift in mathematics instruction for all students toward higher level mathematical reasoning and problem solving.

Simmons (1995), in his study examined the effects of explicit teaching and peer tutoring on reading achievement of learning-disabled students and non-disabled, low performing readers in academically integrated classroom. The study found that explicit-teaching students did not achieve reliably better than controls; students in the explicit teaching plus peer tutoring condition scored higher in reading fluency end comprehension than explicit teaching or control students. Providing intervention in inclusive settings reflects two underlying beliefs: that there are deficits, often intrinsic to the child, for that intervention is necessary and that inclusive programs maximize children’s learning opportunities (United Nations Educational, Scientific and Cultural Organization, 1994). Fisher (1992), investigated the value of play as therapy in a meta-analysis of studies which showed that play therapy resulted in an increase in compliant behaviour, improved language development and a decrease of socio-emotional problems.

A study conducted by Rozario (1991), tested the effectiveness of remedial education for children with Scholastic Backwardness. 25 students aged 8-11 years were selected for remedial education and it was carried out in groups of five students each in school setting. 25 sessions were held with a frequency of four sessions/per week. Results showed scholastically backward children improved in reading, comprehension, spelling, writing and arithmetic skills.