# CHAPTER I

# INTRODUCTION

*"People with disabilities are vulnerable because of the many barriers that they face: attitudinal, physical and financial. Addressing these barriers will unlock the potential of so many people with so much to contribute to the world. Governments everywhere can no longer overlook the hundreds of millions of people with disabilities who are denied access to health, rehabilitation, support, education and employment and never get the chance to shine"*

- *Stephen Hawking*

## Definitions of Learning Disability

Learning Disability was considered as a retardation during 1980's, Learning Disabled children experience development delay in speaking skill, writing skill, reading skill, and mathematical problems because of dysfunction in the cerebrum, they also experience disturbances emotionally and behaviorally.

In the ICD-10, the category of "Specific Developmental Disorders of Scholastic Skills" includes Specific Reading Disorder. Specific Spelling Disorder, Specific Disorder of Arithmetical Skills, Mixed Disorder of Scholastic Skills, other Developmental Disorders of Scholastic Skills, unspecified. According to ICD-10, "Specific Developmental Disorders of Scholastic Skills refers to disorders in which the normal patterns of skill acquisition are disturbed from the early stages of development. This is not simply a consequence of a lack of opportunity to learn, it is not solely a result of mental retardation, and it is not due to any form of acquired brain trauma or disease"

Griffiths (2003) defined learning disability as *"a persistent condition of presumed neurological dysfunction, which may also exist with other disabling conditions. Despite giving so many instructions in the teaching space this dysfunction keeps on continuing"*

"Learning Disability" does not stand for a single disorder. There are no precise and clear definitions of learning disability, but from various health and educational sources experts have described learning disability with few descriptions:

- Learning Disabled have difficulties in progressing and achieving academically
- There are differences between an individual's learning skill and learning potential
- Learning Disabled depicts irregular development in their brain
- Environmental factors have no bearing on Learning difficulties
- It is not caused by mental illness or emotional problems
- It affects an Individual's attention, memory, coordination, social skills and emotional maturity

**Incidence and Prevalence of Learning Disability**

The true prevalence rate of various learning disorders is difficult to determine. Various researches have been taken place in order to satisfy the education needs of the children. Six percentage of the children experience specific learning difficulties are in need of special educators. Prevalence rate of children who have issues involving arithmetic and writing is lacking of evidence (Cook et al., 2001).

Incidence and Prevalence of learning disability in India is very scanty. In India, 21% of elementary school children are affected by Dyslexia, whereas dysgraphia affects 14% and dyscalculia affects 5.5 percent. In various states of India, the board of National Education which administer the (Indian Certificate of Secondary Education- ICSE) and (Central Board of Secondary Education- CBSE) have formally granted the children with learning difficulties to access the needed requirements from Class One to Class Twelve. In urban and rural areas, the prevalence rate was 12 percent for 4 to 6yearold children. Furthermore, due to lack of involvement in comprehensive testing

for specific learning problems, many of the ratings were insufficient (Srinath et al., 2005).

**Achievement- Intelligence Discrepancy**

A discrepancy between Intelligence and Achievement means that the child is not achieving as much as other children of his chronological age, as measured by a standardized intelligence test. Unfortunately, IQ tests do not answer the question of how to evaluate the severity of the discrepancy. Johnson and Myklebust (1967) suggested that one or two years below the expected level of achievement has been the most common criterion for evaluating the discrepancy. At the same time, they warn that when the discrepancy occurs at the age three or four it is more serious than when it occurs at sixteen years of age.

Unsuccessful efforts were made by other researchers to create special formulas such as chronological age (IQ/300 + 0.17) 2.5= Severe Discrepancy Level

A robotic model is used in psychological and educational assessments to identify learning disabilities. The model of Input Integration Memory Output is used to classify disorders of learning (Silver, 1991,1996). Receiving evidence must be managed in a such a manner that it is recognized as the initial task in learning(integration). The storage and retrieval process are the third step (memory). Finally, information from the brain must be conveyed (output).

**Disabilities in Input**

Perception is a core brain process; a person may have a visual or auditory perception problem. Difficulties in visual perception could make it difficult to notice minor variations in shapes. Consider the following scenario: Making a mistake with, “d and b, p and q or 6 and 9”. Visual figure ground activities might be challenging if one is unable to concentrate, on the appropriate stimuli in the area of vision, some children have difficulty perceiving visual depth which causes them to tumble off seats or collide with objects. Disabilities in auditory perception may result in a failure to recognize tiny changes in sounds, resulting in misinterpretation of what is being

spoken. The phonemes are 44 sound units of the English language. “Hair and Air, Ball and Bell” are examples of words that similarly sounds. Some children may struggle for grounding auditory figure, when there are numerous sources of sound, it might be difficult to decide which to listen. Some children are unable to process auditory signals in a timely manner. They call it as Auditory Lag. When too much is said, they appear lost or bewildered, and they may appear preoccupied. Such children appear to constantly misunderstand what is being conveyed to them.

**Characteristics of Learning Disability**

Learning Disabled Students might

- Facing Challenges in the process of Learning
- Demonstrate a substantial educational gap between their academic potential and actual success
- Acquisition impairments manifest themselves in language learning and usage of cognitive abilities.
- Letter reversal and poor discrimination, inability to arrange and classify similar things, poor problem solving abilities are examples of perceptual and cognitive impairments.
- There may be linguistic thinking disruption, such as failure to grasp concrete or abstract terms, failure to recognize the relationship between consecutive words in phrases and sentences in paragraphs and so on.
- Unwillingness or inability to accomplish tasks, they get distracted easily in the presence of others, and a lack of understanding of directions, example: orientation of the left side and right side.
- Attentional deficiencies, such as the inability to stay focused on a task until it is completed
- Exhibit symptoms of Impulsivity, hyperactivity and Inattentiveness

**Causes of Learning Disability**

Grodzinsky (2017) explained that no one is currently aware of this, no one is particular about what causes learning problems. Learning difficulties are assumed to be caused by inherited factors, sickness or an injury which is sustained during or prior

to birth. Low birth weight, a lack of oxygen, drug and alcohol usage during prenatal period (Horowitz, 2017). Most of the early literature on Learning Disability emerged out of the work done with brain damaged and mentally retarded children (Werner & Strauss, 1941). Low achievers and children with brain injury shared similar behavioural features (hyperactivity, perceptual motor abnormalities, and lack of focus). However, most research to prove that learning disabled persons are brain damaged on the basis of neurological evidence has proved indecisive.

**Genetic factors**

Twin Studies, sibling analysis and family pedigree analysis have all been used to investigate the genetic basis for learning difficulties (Raskind, 2001). According to twin research in the area of learning disability have stated that if one of the twins has a reading problem, The chances of the other twin having one as well are sixty eight percent for identical twins and forty percent for fraternal twins. According to the evidence, identical twins are more likely than fraternal twins to have certain types of learning problems. The fact that learning problems are more likely to run in families suggests a genetic relationship (Alarcon- Cazares, 1998). Offspring's who doesn't have the basic qualities required for reading, alike as listening to the words 'sounds clearly, are most likely to have a mother or father who has same issue. However, a father's and mother's learning problem may manifest a child in somewhat dissimilar way. In the areas of speech and language impairments, spelling difficulties, similar evidence has been identified (Castles, Datta, Gayan & Olson, 1999) and (Schulte-Korne, Deimel, Muller, Gutenbrunner & Remschmidt,1996).

**Psychological Factors**

Everyday children with learning disabilities experience a kind of negative feeling. Shame, Anxiety, frustration, social isolation, depression and lack of self confidence are examples of common experiences that have major psychological consequences for a primary child and lead to the development of a poor self image and low self esteem. These children are generally unmotivated to learn because they do not receive much credit as a result of their poor performance and are dissatisfied on the inside. Those with learning difficulties frequently have issues that extend beyond reading, writing, math, memory and organization. Many people have intense

sentiments of irritation, anger, sadness or humiliation, which can lead to psychological problems like anxiety, depression or low self esteem as well as behavioural concerns like substance addiction or juvenile delinquency, Raskind (2001) a professional in the field of learning difficulties, says "Unfortunately" these issues can be even more dangerous than the academic difficulties themselves. Although the intensity and duration of a child's mental health issues may change as they grow older, such emotional state simply help to hinder the development of a strong self concept. Even when others offer support and encouragement, a negative self image might develop as a result of persistent struggle and failure. Low self esteem and insecurity inhibit learning and academic success, perpetuating the cycle of failure and negativity.

Psychological issues can, with no doubt have a negative impact on social interaction. According to few findings, Children with learning disabilities are often misunderstood and avoided by their peers. Teachers may have a negative attitude toward students with learning impairments. Such social rejection can lead to low self esteem and unfavorable self perceptions. Furthermore, social rejection can lead to feelings of loneliness which can lead to melancholy.

**Development of Irregularities in Fetal Brain**

The embryonic brain develops from a few general- purpose cells to a sophisticated organ composed of billions of specialized, linked nerve cells known as neurons. Throughout this incredible evolution, causing changes in how neurons grow and interact, the brain stem develops throughout the first trimester of pregnancy. It regulates key activities of body functions including digestion and breathing. Later, a deep margin divides the cerebrum (the portion of the brain that thinks) into two hemispheres, one on each side. Finally, the regions of the brain that process sight, hearing and other senses as well as areas associated with attention, thinking and emotion, develop. As new cells, arise, they migrate and grow to form diverse brain structures. Cells of the nervous system multiply and connect to other sections of the brain to build the nerve networks quickly. The network enables information's to be transferred between different parts of the brain. The growth of the brain will be sensitive during pregnancy. If disturbance happens initially during pregnancy, the foetus could die or the baby could be born with a variety of disabilities and several

impairments. If the interruption occurs later, when the cells are specialized and moving into place, mistakes in cell makeup location or connections may arise.

**Developmental Delay**

Alternative theory to explain learning difficulties indicated that they emerge as a result of developmental delay in neurological system (Samango-Sprouse, 1999). Few kids mature and kids of the same age develop in a slower rate. As a result, expected school work may not be able to do. This kind of difficulty can be concluded saying as maturational lag. Most common signs of a Developmental delay are as follows:

- Inconsistent patterns of performance on tests of intellectual growth
- Slow development of linguistic skills
- Delayed development of motor skills
- Vision and locomotor difficulties
- Incomplete or mixed Domination
- Confusion on the left and right side
- Immaturity in social situations
- Family members have a tendency to have similar symptoms

**Learning Disabilities and Structure of Brain**

Scientists have discovered certain changes in the structure and functioning of the brain when comparing people with and without learning difficulties (Richards, 2001). According to current research, there may be variances in the brain region known as the planum temporal, an area related to language is equal in size. The left planum temporal is large in size for people without dyslexia. Nowadays people are accepting the fact that the structure and function of brain is different from people with and without learning disability. It is thought that the language area of a person's brain is highly developed in the left hemisphere than the right hemisphere. The linguistic areas are developed well in both the hemispheres of individuals with learning disability. The nerve impulses travel at the same time to both hemispheres. Messages are referred from the two language areas and it is received from the visual cortex, thus the corpus callosum gets jammed.

**Abnormalities of Biochemicals**

Brain activity is considered important because of the chemicals which controls and releases the electrical impulse in the neurons. The excessive amount of biochemical and absence of biochemical leads to the abnormal reactions in the brain.

**Difficulties in Endocrine glands**

Endocrine Glands can be seen in various regions of the body which secretes hormones, heavy chemicals directly into the blood stream. Functions of hormones helps to regulate behavior. Hence there is relationship between the hyperactive behaviour, learning difficulties and the chemicals from neurons.

**Abnormal level of Thyroxin**

Thyroxin, a hormone released from the thyroid gland, regulates the body's the basal metabolic rate or the rate at which oxygen is used and energy is expended. A low thyroxin level can lead to impaired memory, a low IQ and a lack of energy. Excess thyroxin levels can cause nervous excitability, irritation and trouble concentrating. A little reduction in blood sugar levels may also occur.

**Thyroid Abnormalities**

Learning problems may be a danger for children born without a functioning thyroid system. Babies who are checked for congenital hypothyroid syndrome at birth are given thyroid hormone therapy right away and for the rest of their lives, preventing major developmental deficits. However, longitudinal follow-up demonstrates that even if Intelligence quotients are frequently profiles of in the usual range deficiencies that resemble disorders of learning. The association between appropriate maternal thyroid levels throughout the pregnancy and optimal fetal development is now being investigated.

**Social factors**

Schools are always important and formative in a child's cognitive, verbal, emotional, social and moral development. Kapur (1995) and Johnson (2002) examined the relationship between learning disabilities and behavioural problems. In schools many children can be labelled as lazy or slow learners, child may believe the label and may act as it is.

**Types of Learning Disability**

Learning disabilities are divided into three groups.

- Speech and Language Disorders in Children and Adolescents
- Disorders in academic skills
- "Other", a catch-all phrase that encompasses a variety of coordination problems and learning disabilities that aren't covered by the other classifications.

**Speech and Language disorders in children and adolescents**

Problems with speech and language difficulties are usually the first signs of a learning impairment. People with developmental speech and language impairments struggle to produce spoken sounds, speaking verbally, and comprehending the other individual's opinion (Neuwrith, 1993)

**Articulation disorder in children**

Children with this condition may have problems managing their speech rate or learning speech sounds at a slower rate than their peers. For example, "Wallace spoke "wabbit" and "thwim" for "swim" when he was six years". Articulation problems in children under the age of eight are widespread, with at least ten percent of children under the age of eight suffer from this condition.

**Developmental Reading Disorder**

Developmental Reading Disorder can also be called as Dyslexia. Dyslexia is a term used to describe a variety of reading difficulties. Although there are certain characteristics of learning problems in reading. Although the characteristics of learning

disabilities in reading differ from people to people, the following are some of the most common:

- Phonemic awareness is a challenge (in the educational set-up, the ability to detect, think about and deal with particular sounds)
- Phonological Processing
- Word decoding, fluency, reading speed, rhyming-spelling, vocabulary, comprehension and written expression problems

The subtype of specialized learning problems is known as dyslexia, it is most common and well known. Dyslexia is a term that refers to a group of language related learning difficulties. Although the features of learning disabilities in language differ from one person to the next, the following are some of the most common:

- Non- phonetic word Memorization
- Reading words that cannot be visualized in your mind
- Sound to symbol connection or letter sequencing to form a word
- Reading aloud without frequent errors or pauses
- Understanding of reading material, command of vocabulary
- Reading aloud without pauses or repeated errors
- Understanding of reading material, command of vocabulary

**Developmental Writing Disorder**

Dysgraphia is another name for writing disorder. This word is linked to specific writing learning problems. It is used to record the physical characteristics of writing as well as the quality of written language. Learning difficulties include a widespread range of symptoms in people with learning disorders, arithmetic disorders vary from person to person and at different levels of development.

Students with writing disabilities may encounter few of the following issues:

- Writing that is inconsistent and at times illegible. Print and cursive, upper and lower case, odd sizes, shapes and slants of letters are few examples.
- Incomplete words or letters, deleted words and numerous spelling errors

- Having trouble with fine motor skills, such as reproducing letters or memorizing the motor patterns
- Inconsistent writing speed, either excessively slow or fast
- Writing that is not on the same level as the students' other linguistic abilities.
- Clumsy pencil grip and position of the body
- Tiring quickly while writing and avoiding writing or drawing tasks
- Writing or drawing inside a line is a difficult strategy
- Having trouble putting your thoughts on paper

**Associated Deficits and Disorders**

There are several aspects of information processing that are frequently related with Learning disability. Weaknesses in the ability to absorb, process and synthesize information, receiving and expressing information is frequently used to explain why a person has learning and academic difficulties. Frustration, low self esteem, social disengagement can all result from a failure to absorb information properly, so it's important to understand how these flaws affect people with autism. Disabilities in learning and attention deficit hyperactivity disorder can help with lesson and support planning.

Auditory Processing Deficit is a term that describes problems with understanding and applying auditory information. People who struggle with these issues frequently face the following:

- Listening is especially important when there is background noise or when one's attention is divided.
- If the speaker is speaking quickly, it can be difficult to process information.
- Identifying and interpreting unique sounds, as well as assigning meaning to sounds in words
- While speaking using the phonemes wrongly
- Using phonics to encode and decode
- Vocabulary and reading comprehension are important aspects of literacy

- Auditory discrimination, Auditory figure ground discrimination and Auditory memory

**Spelling Disorder**

Spelling Disorder (Dysorthographia) is usually characterized by difficulty in spelling and is caused by poor understanding or memory of the letter structure in words and language.

A student with a spelling difficulty may experience some of the following issues, which are frequently accompanied by poor reading or math abilities:

- Addition, omission or substitution of letters in words are examples of arbitrary misspellings
- Vowels and syllables are reversed
- Sluggish, hesitant or illegible written expression
- Mistakes in the grammar and conjugation
- Non phonetic words are spelled phonetically
- The link between sounds and letters are misunderstood
- Identifying the physical properties of items
- Putting thoughts into words, speech/ language difficulties and articulation

**Dysfunctional sensory integration**

It has to do with the ability to integrate data from the body's sensory systems as well as proprioceptive input. The information obtained by the senses is not interpreted in a way that allows the brain to make optimal use of it. Some of the following challenges maybe encountered by students with sensory integration issues:

- Touch, sound, light, fragrances and anything placed into the mouth are extremely over or under reacting senses
- clumsy, careless or physically strong
- Having a great desire to get messy or a strong aversion for it
- Calming oneself or unwinding
- Making effortless transition

- Distracted easily

**Organizational Learning Impairment**

Organizational learning impairment is a type of learning disability that is linked to executive function issues and is frequently associated with other learning disabilities. Organizational learning disorders can make it difficult to process too much stimuli or information at once, think logically and orderly recognize direction and organize materials and time.

Some of the following issues may be experienced by a student with an organizational learning impairment are, "Allocating or organizing time, Arranging or locating the beginning, middle and end, Setting Priorities, time management, estimating time, Following Schedules and meeting deadlines, Solving problems in stages, Remembering what they are required to do"

**Early identification and Assessment Procedures**

**Assessment**

A specialized test for the student and the nature of the problem faced by the students should be discussed along with the teacher. The child's health, vison, hearing, social and emotional state, general intellect, scholastic performance, communicative status and other pertinent characteristics must all be assessed (National Information Centre for Children and Youth with Disabilities, 2000).Discussion with the teachers regarding the nature of the problem and a specialized evaluation of a student is conducted. The child's health, vision, hearing, social and emotional state, general intellect, academic performance, communicative status and other factors relevant to the alleged handicap must all be evaluated (National Information Centre for Children and Youth with Disabilities, 2000). A psychologist collects pertinent information about the child from teacher and school records in addition to administering a battery of tests. An optimal Learning disability assessment is a lengthy process that requires numerous sessions with a competent educational psychologist.

**Parental Consent and Interview**

- It's necessary to seek the permission from parents before evaluating the child. The child's education history and medical history, as well as information about the child's language use and communication patterns, parents' permission is important.
- The parent must be included in the intervention program's planning, such as attendance at a resource room, accommodation and kid's adaptations

**Gathering Evidence from the Educators/Institute**

In order to obtain a child performance and behaviour in the classroom setting, a psychologist must observe or gather information from the tutor.The pattern of academic improvement will be revealed by examining prior grades. It may shed light on the child's problematic regions. Students present classroom performance might be compared to their exam scores.

**Examining workbooks for students**

- In today's educational environment, notebooks usually fail to reflect the children's learning challenges as a result of rote learning, especially when young children may easily copy from the blackboard. The analysis will enable a better understanding of the problem's nature.
- Only through gathering data from a range of sources, such as parents, teachers and classmates, can an accurate picture of the child's strengths and shortcomings be obtained. This information, when combined, can be used to assess the extent of the child's special needs, whether the kid need special assistance, and if so, how to build an appropriate programme. Course-based assessment, task analysis, dynamic assessment, and learning style assessment are just a few of the methodologies that have lately been applied. These approaches provide essential information about students and are especially useful when evaluating students from varied cultural or language backgrounds. As a

result, they are important ways in the learning process, which is a global approach to assessment.

**In India, assessments are used**

The Bangalore- based National Institute of Mental Health and Neurology (NIMHANS) has created an index to evaluate children with learning difficulties (Hirisave et al., 2002). There are two tiers to the index. Level I is for children age range from five to seven years, while Level II is for children age range from 8 to 12. These are the few tests that makeup the index, “attention test, Visual Motor Skills, Auditory and Visual Processing, Reading, Spelling and Comprehension, Speech and Language, Mathematic”

**Intervention and Preventative Measures**

The etiology of Specific Learning Disability is unknown at this time. Etiologies include genetic factors and brain injury throughout the prenatal, natal and postnatal periods. Specific Learning Disability cannot be cured, either medically or by other means. Learning disability-related challenges in reading, spelling, expression and other areas, on the other hand, can be effectively handled with prompt and suitable intervention. Because the brain processes information in multiple paths, strengthening alternate ways of processing, as well as improving language and cognition are effective compensating techniques.

**Schools’ Potential preventive Measures**

Early detection and intervention for language development are important in preventing the impacts of Learning Disability. Phonetics and Language development are essential areas to concentrate on.

**Phonics: Synthetic and Analytic**

Phonological awareness is an essential skill for reading, writing and listening. There are two primary types of phonics instruction: analytic and synthetic. Both Approaches necessitate phonological awareness on the part of the learner. Synthetic Instruction starts with the elements of the language and then moves on to how they fit together to produce a whole. The entire is shown first.Reading, writing and listening

all depend on phonological awareness. Analytic and synthetic phonics instruction are the two main methods of phonics instruction. Both approaches need the student to be aware of phonological patterns. Synthetic instruction begins with language pieces and progresses to how they fit together to form a whole. The full thing is displayed first. Then there are instructions on how to disassemble it into its component parts. Phonemic awareness must be developed early in synthetic phonics. The reader would learn up to forty four phonemes and their related graphemes as part of the decoding process. The reader would be challenged to recognize each grapheme and then sound out each phoneme in a word, eventually merging the sounds to pronounce the word phonetically. Phonetically regular words are considered to be a greatest part for this technique. With phonetically regular words, this strategy works effectively. A very methodological whole class teaching programme, which is normally started very early in elementary school, is one of the most popular synthetic methodologies. The sounds and their written symbols are taught in rapid succession, up to five to six times per week. Children see the sign, listen to the sound and say the sound with action as part of a multimodal approach. Most learners tend to benefit from this multisensory method in memorizing many of the sound symbol associations. Phonics drills may appear to be beneficial in the short term, but unless they are immersed inside meaningful and purposeful texts and reading activities, they are likely to be seen as classroom exercises rather than “real” reading. The most effective literacy teachers, according to Wray and Medwell (1999), contextualized the skills required for decoding using relevant text.

**Learning Disabled Interventions**

Individuals with learning disabilities can benefit from a variety of therapies. First and foremost, kids require therapies which resulted in improving phonemic awareness, phonics and fluency. It’s also necessary to have a good command of the English language as well as prior knowledge and comprehension abilities (Hinton, 2006). Individualised remedial reading sessions and a reading programme involving library activities, such as storytelling are required. Reading programmes designed in the west are inappropriate for use in India. Most of our kids will need help with language development and vocabulary expansions in addition to phonemic awareness activities. Individualised remedial reading sessions and a reading programme involving

library activities, such as storytelling, are required. Reading programmes designed in the west are inappropriate for use in India. Most of our kids will need help with language development and vocabulary expansion in addition to phonemic awareness activities. While promoting usage is important, it's also vital that young children's non language skills be assessed using more multiple-choice questions, drawings and other techniques to avoid recurring failures. Because connecting and retrieving information is a big challenge, they can utilise signals, reminders and the creation of visual mapping tools to aid them. Finally, intervention must be centred on maintaining self esteem. Individuals must be encouraged and applauded as they learn, as motivation is a key component of success. Hinton (2019) points out that many children with Learning disabilities are quite intelligent and may excel in other areas. As a result, children should be encouraged to develop their talents, whether they are in sports, arts, musicetc.

**Interventions in the Preschool**

In India, there is currently no standard developmentally suitable preschool curriculum. This generates problems in and of itself, and for children at risk of Learning Disabilities, it exacerbates the situation. Before a kid reaches the age of seven, when the brain grows, a diagnosis of learning disability is not established. However, there are several warning signs (Schwab Learning, 2002), and efforts to help these children should begin now.

Preschool intervention should focus on, "(a) Language development (b) development of fine motor and visual motor skills. Adaptations of the Developmental Programme in Visual Perception (Frostig et al., 1972) can be included as a part of the regular preschool curriculum and (c) Synthetic and Analytic Phonics as mentioned earlier" when children who are "at risk" for Learning Disabilities receive prompt assistance, they are able to function considerably better as they progress through school.

**Primary School Interventions**

Language development and basic abilities of reading, writing and arithmetic should be the emphasis of interventions. Furthermore, allowing the children to "think" for themselves in order to develop higher cognitive functioning is critical. A reading approach based on the PASS (Planning Attention Simultaneous Successive) theory of

cognitive development established by (Das,1988) might be utilised. The Madras Dyslexia Association uses this programme in conjunction with other treatment measures. The capacity to correctly convey emotion, both positive and negative, is an important aspect of emotional development that must be included in language instruction.

**Interventions at Middle School**

The basis for Sciences and Social Sciences is formed during middle school. Children with Learning Disability have a hard time remembering, retrieving and connecting information. They are likely to fail in all parts of their education if they are having difficulty learning English as a second language. Interventions at this time should focus on teaching concepts, critical thinking, problem solving and promoting creativity and divergent thinking, in addition to maintaining language development and fundamental abilities.

**Interventions in Secondary Schools.**

Children in grades VIII to X must be given opportunities to succeed in school so that they can develop into self-assured, driven persons with high self-esteem. This necessitates adaptations to the curriculum and accommodations. Currently, concessions are given in exams from few states in North India

a. Certification from a hospital is necessary

b. A proclivity towards making improper referrals

c. Parent’s Helplessness to take their children for testing, especially those who are daily wages

d. Who is going to be the author?

e. Stigmatisation

g. Assessments are neither practical nor connected to schoolwork, given the battery of tests and the necessity to observe the kid at school in order to provide a solid diagnosis.

**Making Classroom changes**

Children can take information or convey their knowledge back in a variety way with the help of experience accommodations. The modifications have no effect on the subject's or test's standards or expectations. If a kid with delayed reading skills has listened to the audio tape version of a novel, he or she can engage in class discussions on the text.

**Accommodations**

Accommodations include changes in the classroom, such as seating the child in the front row, changes in the classwork and homework, such as customising assignments in terms of length, number, due date and topic and changes in examinations such as multiple choice questions, oral examinations reading of the question paper, and allowance for spelling errors (Schwab Foundation, 2006).

**Modifications**

Modifications to subject matter or assessments include modifications in delivery, content, or instructional level. They lead to lowered or changed expectations for children with impairments, as well as a different standard for children without disabilities. The curriculum has been significantly modified as a result of the modifications. A $5^{th}$ class student who has a serious arithmetic handicap. A fifth-grade student with a severe mathematics handicap who is still doing the addition and subtraction may still be practised with fractions and decimals. This indicates that his educational level has shifted dramatically. Provision of a reader, writer, additional time, exemption from second or third languages and other accommodations and changes, usually referred to as concessions are currently being given by certain secondary boards in India. Numerous interventionsare available there, but none can compare to strong training techniques. Furthermore, in the Indian context, a list of interventions is worthless without a national programme of prevention and intervention (Schwab Foundation, 2006).

## Psychological Reactions to Disability

### Intrapersonal Factors

Past experience in illness with himself/ herself and others may have an impact on a handicapped person's perception and attitude toward a certain impairment and its implications. A child, A teen, an adult or an elderly people has the experience of being handicapped and the ability to manage. At any age, an injury or disability can either provide opportunities for growth and adaptation or result in devastating maladjustment. In addition to the age factor, the gender of the individual must be considered.

### Psychosocial Aspects of Disability

Throughout human history human beings have struggled with these concerns that have never received a comprehensive or honest response. The significance of impairments and how they influence the lives of individuals with disabilities exemplifies the complexity of societal understanding and coping with disability difficulties. Social justice, rehabilitation, economy and inclusion are just a few of the complex challenges that rehabilitation assisting professionals, as well as family and friends, face. While some opponents of the creation of disability models may argue that these models differ, this is not the case.

## Conclusion

Because no one knows for sure what causes learning impairments, mental health specialists advise that looking backward to find for probable causes is pointless. Despite extensive research in this subject, pinpointing specific causality has been challenging and efforts to continue. This wonderful planet abounds in human diversity thanks to the interaction between heredity and environment. Physical, intellectual, emotional, and behavioural characteristics are all unique to each person. As a result, the greatest problem that the teacher faces is adapting to individual variances in the classroom. In any educational system, teachers play a key role. A teacher is an artist who moulds and shapes children's physical, mental and moral potential. In a typical classroom, one or two children with learning impairments can be found. Children with significant learning disabilities frequently enrol in special schools designed specifically for them. However many children with learning disabilities are enrolled to

regular schools, where they struggle to thrive in school and finally drop out.(Gandhi, 2010). We will not be able to achieve the goal, if these impairments are not recognised, ignored or neglected and such children's needs are not fulfilled in normal classes or special education within the school, universalisation of primary education and equal educational opportunity will be impossible. If their condition is not detected and appropriate intervening programmes are not offered, these children are more likely to develop illnesses such as depression, anxiety and criminal offenses (Trute, 2008). Primary school teachers should play a key role in identifying children with learning disabilities. Teachers with specific knowledge, skills or competencies can perform a better job with learning disabilities than teachers with broad pedagogical backgrounds. Aside from providing guidance and counselling, instructors require specialised competencies such as understanding of different forms of learning disabilities, causative factors and the development of instructional techniques.

**Need For the Study**

The nature of Learning Disabilities is still in a darkest area in India. There is a lack of Interventional Programme for Learning Disabilities. Learning Disability refers to delays, deviations and there will be discrepancy in the basic academic subjects. It is a broad educational term- an umbrella term that covers a wide range of issues. Sadly, the majority of those who are never diagnosed as impaired in learning. Due to lack of understanding among instructors, parents and school officials, many children are never identified as learning disabled. These children are frequently labelled as failures because to a lack of knowledge among teachers, parents and school officials. Learning disabilities can be lifelong disorders that influence many aspects of a person's life, including school or job, daily routines and social interactions. In our country, remarkable progress has been made in all the different aspects in education. Our understanding of the significance of early identification in preventing learning disabilities is very low. Teachers and Parents may assist children with learning impairments in achieving such achievement by recognising and supporting their talents while also recognising and addressing their limitations. Regardless of circumstances, learning is a process that involves mind, body and spirit. People who are healthy, happy and aware are more aware and more receptive to receiving and recalling new

information. They also have more confidence and enthusiasm than those who frequently deals with frustration or failure. Naturally, the earlier a learning issue is identified by a competent specialist, the better. A good support system and the use of suitable learning methods may help turn liabilities into assets, but it needs a well-thought-out strategy and a positive attitude to do. So, in this study, Enhancement of Cognitive abilities among Learning Disabled and Thoppukaranam have been included as the intervention.

Thoppukaranam (Super Brain Yoga) is a wonderful gift to the civilised man or woman, with preventative, curative, and rehabilitative properties. Thoppukaranam (Super Brain Yoga) is done equally on the right and left sides of the body, reinforcing right and left brain connections. Concentration is developed by performing the correct sequence of movements in the poses. Children with special needs suffer from a variety of physical and mental impairments that have an impact on their mental outlook. They have low-self esteem and lack of confidence; they also have emotions of inferiority as a result of their knowledge of their own oddity and lack of achievement in all areas they will be irritated by their failure to complete simple activities, either because they are unable to do so or because they must do so with great difficulty. As a result, they really are extremely tense and easily tyre from physical effort. Hence practice of Thoppukaranam (Super Brain Yoga) begins by working with the body on a structural level, assisting with the alignment of the spinal column, increased flexibility and muscle strength as well as the toning and rejuvenation of internal organs; nervous and endocrine system are normalized and balanced and brain cells are nourished and refreshed. Increased mental clarity and emotional stability are the final results. As a result, yoga was utilised as an intervention to improve the participants' cognitive abilities. Children with disabilities who practise Thoppukaranam (Super Brain Yoga) frequently astound their peers with the help of rapid mastery of techniques and significant improvements in locomotor, linguistic, intellectual capabilities, in their daily activities, they improve their concentration, balance, and control. Thoppukaranam (Super Brain Yoga) is useful to everyone, but it requires appropriate training and devoted practice on a regular basis. The present study was an earnest effort to enhance the cognitive abilities of learning disabled. Hence the need for the study is

to find out the “Efficacy of Thoppukaranam and Yoga for the Enhancement of Cognitive Abilities among Learning Disabled and Normal Girl Students”