CHAPTER II

LEARNING DISABILITY IN CHILDREN:
A THEORETICAL OVERVIEW

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Children who have difficulties in school are neglected and ignored in the current school system. When the problem becomes so acute as to interfere with the learning process and affects the child’s performance in reading, writing, arithmetic and other areas, it is called a learning disability.

This chapter deals with the important factors related to learning disability such as the academic characteristics of learning disability, how learning disability can be identified in an early stage and remedial measures for learning disability. The investigator hopes that this will give an insight into various aspects of learning disability in children which will be of help in designing the tools and administering them properly.

There are many types of learning disability and there is a great deal of variation within individuals. Symptoms and behaviours vary a great deal and this further confuses 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.

Johnson and Myklebust (1967) suggest that one or two years below the 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 of three or four, it is more serious than when it occurs at sixteen years of age.

In the 1960's, the difficulty that many children were having with learning attracted serious attention. An increasing number of children were found unable to cope with school work specifically with reading, writing and mathematics. These children were otherwise bright, fairly articulate in their verbal expression and did not appear to have any form of mental retardation, sensory handicap or visual impairment. Educators and professionals began to take these learning difficulties seriously. It was Dr. Samuel Kirk, while addressing a gathering of parents, first used the 'learning disability' to describe such children (Hallahan and Cruickshank, 1973). The term learning disability was formally accepted and an organisation called the Association for Children with Learning Disabilities (ACLD) was started to provide services to individuals of all ages.

2.1 CAUSES OF LEARNING DISABILITIES

Mental health professionals stress that since no one knows what causes learning disabilities, it doesn't help parents look backward to search for possible reasons. There are too many possibilities to pin down the cause of the disability with certainty. It is far more important for the family to move forward in finding ways to get the right help. Scientists, however, do need to study the causes in an effort to identify ways to prevent learning disabilities.

Once, scientists thought that all learning disabilities were caused by a single neurological problem. But research supported by the National
Institute of Mental Health in the U.S.A. has helped us see that the causes are more diverse and complex. New evidence seems to show that most learning disabilities do not stem from a single, specific area of the brain, but from difficulties in bringing together information from various brain regions.

Today, a leading theory is that learning disabilities stem from subtle disturbances in brain structures and functions. Some scientists believe that, in many cases, the disturbance begins before birth.

**2.1.1 Errors in Foetal Brain Development**

Throughout pregnancy, the foetal brain develops from a few all-purpose cells into a complex organ made of billions of specialised, interconnected nerve cells called neurons. During this amazing evolution, things can go wrong that may alter the way neurons form or interconnect.

In the early stages of pregnancy, the brain stem forms. It controls basic life functions such as breathing and digestion. Later, a deep ridge divides the cerebrum--the thinking part of the brain--into two halves, the right and left hemispheres. Finally, the areas involved with processing sight, sound, and other senses develop, as well as the areas associated with attention, thinking, and emotion.

As new cells form, they move into place to create various brain structures. Nerve cells rapidly grow to form networks with other parts of the brain. These networks are what allow information to be shared among various regions of the brain.
Throughout pregnancy, this brain development is vulnerable to disruptions. If the disruption occurs early, the foetus may die, or the infant may be born with widespread disabilities and possibly mental retardation. If the disruption occurs later, when the cells are becoming specialised and moving into place, it may leave errors in the cell makeup, location, or connections. Some scientists believe that these errors may later show up as learning disorders.

2.1.2 Other Factors that Affect Brain Development

Through experiments in animals, scientists at the National Institute of Mental Health in the U.S.A. and other research facilities are tracking clues to determine what disrupts brain development. By studying the normal processes of brain development, scientists can better understand what can go wrong. Some of these studies are examining how genes, substance abuse, pregnancy problems, and toxins may affect the developing brain.

**Genetic Factors** — The fact that learning disabilities tend to run in families indicates that there may be a genetic link. For example, children who lack some of the skills needed for reading, such as hearing the separate sounds of words, are likely to have a parent with a related problem. However, a parent's learning disability may take a slightly different form in the child. A parent who has a writing disorder may have a child with an expressive language disorder. For this reason, it seems unlikely that specific learning disorders are inherited directly. Possibly, what is inherited is a subtle brain dysfunction that can in turn lead to a learning disability.
There may be an alternative explanation for why learning disability might seem to run in families. Some learning difficulties may actually stem from the family environment. For example, parents who have expressive language disorders might talk less to their children, or the language they use may be distorted. In such cases, the child lacks a good model for acquiring language and therefore, may seem to be learning disabled.

**Problems during Pregnancy or Delivery**

Other possible causes of learning disabilities involve complications during pregnancy. In some cases, the mother’s immune system reacts to the foetus and attacks it as if it were an infection. This type of disruption seems to cause newly formed brain cells to settle in the wrong part of the brain. Or, during delivery, the umbilical cord may become twisted and temporarily cut off oxygen to the foetus. This, too, can impair brain functions and lead to learning disability.

**Toxins in the Child’s Environment**

New brain cells and neural networks continue to be produced for a year or so after the child is born. These cells are vulnerable to certain disruptions, also.

Researchers are looking into environmental toxins that may lead to learning disabilities, possibly by disrupting childhood brain development or brain processes. Cadmium and lead, both prevalent in the environment, are becoming a leading focus of neurological research. Cadmium, used in
making some steel products, can get into the soil, then into the food we eat. Lead was once common in paint and petrol, and is still present in some water pipes. A study of animals sponsored by the National Institute of Health of U.S.A. showed a connection between exposure to lead and learning difficulties. In the study, rats exposed to lead experienced changes in their brainwaves, slowing their ability to learn. The learning problems lasted for weeks, long after the rats were no longer exposed to lead.

In addition, there is growing evidence to show that learning problems may develop in children with cancer who had been treated with chemotherapy or radiation at an early age. This seems particularly true of children with brain tumours who received radiation to the skull.

While comparing people with and without learning disabilities, scientists have observed certain differences in the structure and functioning of the brain. For example, new research indicates that there may be variations in the brain structure called the planum temporale, a language-related area found in both sides of the brain. In people with dyslexia, the two structures were found to be equal in size. In people who are not dyslexic, however, the left planum temporale was noticeably larger. Some scientists believe reading problems may be related to such differences.

With more research, scientists hope to learn precisely how differences in the structures and processes of the brain contribute to learning disabilities, and how these differences might be treated or prevented.
2.2 ACADEMIC CHARACTERISTICS OF LEARNING DISABILITY

Academic disabilities have long been the defining characteristic of individuals with learning disabilities. The National Joint Committee for Learning Disabilities (NJCLD) defines learning disabilities as disorders manifested by significant difficulties in the acquisition and use of listening, speaking, reading, writing, reasoning or mathematical abilities. This section will review the basic characteristics of disabilities in areas of reading, written language, mathematics and oral language.

2.2.1 Reading Disability Characteristics (Dyslexia)

A pervasive characteristic of persons with L.D is some type of reading disability. Given the emphasis on reading in the school, disabilities in this area have vast implications. Reading problems include poor comprehension, poor word-attack skills, and poor word recognition. Developing word-recognition skills is directly related to continuing knowledge base development. Though educators continuously intervene, the prognosis is not good. Many individuals with L.D will not learn to read adequately and will need alternative knowledge-acquisition methods.

2.2.2 Written Language Disability Characteristics (Dysgraphia)

Writing is also a problem area for the learning disabled with problems in both convention and composition. These difficulties are long lasting appearing throughout adulthood.
2.2.3 Oral Language Disability Characteristics

Pervasive language disabilities are a recognised characteristic of individuals with learning disability (Lenneberg, 1967, Marge, 1972). Communicative competence is a deficit area in individuals with learning disabilities. Overall communicative competence is not equal to that of individuals without learning disabilities, although this disability may be subtle. On several gross measures of communicative competence, no apparent differences emerge between individuals with L.D and without L.D (Mathinos, 1988). Subtle aspects (e.g. strategy usage) however did emerge. These subtleties relate to the quality and success of communicative interactions and affect students, teacher and other adults in educational settings (McCord & Hayness, 1988).

2.2.4 Mathematical Disability Characteristics (Dyscalculia)

The area of mathematics consists of both computational disabilities and problem-solving disabilities. Learning disabled individuals have problems in both areas. Mathematical learning disability can occur both with and without other academic disabilities.

Computational disabilities relate to manipulating arithmetic symbols and performing mathematical calculations. Computational disabilities are often referred to as dyscalculia and acalculia (partial or complete absence of mathematical ability respectively). Recent researches suggest that computational difficulties are related to ineffective or inefficient internal data
manipulation and memory (Fleishmer, Gernett and Shepherd, 1980; and Houck et al., 1980). Poor symbol interpretation usually results in errors in applying basic arithmetic, which increases with problem complexity. Children demonstrating disability of mathematical symbol manipulation frequently display reading disabilities as well, since both are related to symbols. Problem-solving difficulties often result in problem applying computation skills to practical context (Houck et al., 1980). These difficulties appear to increase as the reaching level of materials becomes complex. Extraneous information and distractors are incorporated. Key words become ambiguous, and more steps are required further as the context of word problems becomes less familiar, performance decreases (Greeno, Riley & Gelmen, 1984). Difficulties in problem solving are also linked to inappropriate teaching strategies such as teaching with little opportunity for practical applications, working in isolation and emphasis on skill practice. In theory, the importance of shared cognition, contextualised reasoning and situation, specific competencies are emphasised, in contrast to the individual cognition, abstract reasoning and generalised competencies reinforced in schools (Resnick, 1987).

2.3 ATTENTIONAL CHARACTERISTICS

Throughout the history of learning disabilities attentional deficits have been implicated as a primary source of the disability. Unfortunately, the relationship has been at best nebulous. For example, there have been significant difficulties in defining attention. There is clearly no adequate
understanding of the relationship of learning disabilities to attentional disorders.

2.3.1 Attention Deficit Characteristics

Distractibility and attentional problems are often cited as characteristics of individuals with learning disability (Chalfont & Sachffin, 1969; Cruickshank & Hallahan, 1973). Some authors use attentional deficits or inattentive behaviour as a characteristic to identity individuals with L.D (Hallahan & Kauffman, 1988, and Hallahan & Reeve, 1980). The field of L.D is historically linked to minimal brain dysfunction, brain injury and hyperactivity and thus with attentional problems. Different groups however may show attentional deficits but the deficits are different (Krupski, 1986 & McNellis, 1987). Individuals with hyperactivity have a constitutional predisposition involving poor impulse control an inability to sustain attention and poorly modulated arousal levels which result in a tendency to seek stimulation and salience. Hyperactive individuals and those with L.D often have problem with cognitive control variables viewed as critical to learning (Kegok & Macmillan, 1983 and Swanson, 1980). In individuals with L.D., frustration due to problem in basic learning processes often results in overt behaviours resembling the attentional problem of the hyperactive child. Attention like many other terms used in the field of learning disabilities has many different manifestations and connotations. Moray (1969) suggests a minimum of seven different types of attention. Neisser (1976) has suggested that attention is an unnecessary
concept and doesn't even exist. Several different conceptualisations of attention have been suggested. Krupski (1986) and McNellis (1987) have each reviewed the existing research regarding learning disabilities and attention. McNellis (1987) points to several problems with the existing research. First, clinical populations are used, which do not reflect the general L.D population. Second, the research populations are confounded by including hyperactive and non-hyperactive individuals. Third, IQ is not taken into account and fourth when given practice with interesting tasks, performance increases. "One cannot help but wonder whether a very interesting reward would eliminate possible group differences in reaction time in these failure-oriented-youngsters (McNellis, 1987, p. 66). While the results of most studies support the hypothesis that individuals with learning disabilities and hyperactivity perform more poorly than non-handicapped peers, the results don't support the position that individuals with learning disability and hyperactivity perform differentially on vigilance tasks (Krupski, 1986). Similar results have been found using reaction time data and physiological measures. Sustained attention is a function of several factors (McNellis, 1987) including prior knowledge, interest level, motivation, task difficulty and interest level of the task. Selective attention has also been investigated using tasks designed to indicate the effects of similarity between tasks and distractors (Krupski, 1986). Specifically, when irrelevant stimuli of high salience are included in tasks that have high cognitive demands, most studies indicate that individuals with learning disabilities and hyperactivity
performed differently from individuals without these conditions (McNellis, 1984, 1987). "Psychologists and educators are going to have to look somewhere other than at ‘attention’ to find a single syndrome that may typify learning disabled children” (McNellis, 1987, p.78).

2.3.2 Attention Deficit Disorder

Interest in the attentional abilities of individuals in the learning disabilities was enhanced during the early 1980’s, when the DSM-III classification system (American Psychiatric Association, 1980) recommended that there should be a classification of Attentional Deficit Disordered (ADD) and that ADD exists both with and without hyperactivity. The majority of investigators have accepted the concept of ADD. Considerable attention has been given to coordinating the efforts of the learning disabilities field and those investigating the conditions. There has been widespread adoption of the term attention deficit disorder by both parents and professionals. Parents and professional personnel are often quick to label a child ADD and avoid facing the child’s difficulties with processing information or with the need to adapt the curriculum to the needs of the child. The relation of ADD to learning disabilities is not well understood. Present estimates suggest that approximately 33 per cent of the learning disabilities population satisfies the diagnostic criteria for ADD (Shaywitz, 1986). The 1980 DSM III classification had provisions for ADD with and without hyperactivity. Since most individuals with learning disabilities are not hyperactive, this allowed any child diagnosed
as having learning difficulties and being distractible to be labelled ADD. Subsequently the new DSM-III-R (American Psychiatric Association, 1987) classification has been modified to include inattention, impulsivity and over activity under one classification, deemed Attention Deficit Hyperactivity Disorder (ADHD), and suggest that further research is needed to verify whether the classification is valid. Unfortunately, acceptable, objective, standardised methods for diagnosing ADD are still in the development stage and therefore not yet widely available.

2.4 SOCIAL CHARACTERISTICS

There is considerable controversy over the relationship of social and emotional factors to the category of learning disability. There is even some evidence that the factors that first set these children (LD) apart from their classmates, thereby triggering the referred and diagnostic process, may be problems in social adjustments rather than academic underachievement (Pearl, Donahue & Bryan, 1986). Most definitions of learning disabilities don't directly address the issue of social problem as a factor in developing disabilities. Yet social problems affect an individual's feelings of competence, self-esteem, and perceptions of how others view him or her. Further, social problems interact with motivational attitudes, difficulties in peer relationships, and in general sense of the acceptance and support by others in the environment. A number of studies have investigated how others (e.g. peers, teachers, parents) view the social behaviour of persons with learning
disabilities with regard to peers. Research results show that individuals with learning disabilities are viewed much more negatively than individuals without learning disabilities. They are spurned as friends, generally less popular, ignored in social situations and generally rejected (Donahue & Prescott, 1983; Garrett & Crump, 1980; and Siperstain & Goding, 1983). Teachers also present a negative view of persons with learning disability. Teachers generally have lower expectations for such individuals (Boersma & Chapman, 1982) and expect more behaviour problems and more classroom-related problems (Garrett & Crump, 1980). Parents also have less positive views of their children with learning disabilities. On a variety of measures (such as perseverance, ability to structure the environment and impulse control), Owen et al. (1971) found that parents of individuals with learning disabilities generally rated their children more negatively than the parents of non-learning disabilities children. These findings have been confirmed by numerous investigators (Epstein, Bergcross & Bergcross, 1980; Humphries & Bauman, 1980). Other studies (Boersman & Chapman, 1982; and Bryan et al., 1982) have found that mothers of individuals with learning difficulties have lower expectations and are pessimistic about their children’s future success. While teachers, peers and parents all have ongoing interaction with the learning disabilities, it appears that even strangers rapidly develop negative views. Several studies using video tapes of individuals with and without learning disabilities, evidence that strangers are rather consistent in identifying persons with learning disabilities. A significant amount of research suggests
that individuals with learning disabilities have social problems with respect to their interaction. For example, in classrooms individuals with learning disabilities were often viewed as off-task and distractible (Feegans & Mckimy, 1982; Gettinger & Foyne, 1982; Mckinc, McClure & Feegans, 1982). This type of behaviour has been found to elicit teacher interactions that are focused on behaviour management and behaviour correction (Siperstein & Goding, 1983). When interacting with peers, individuals with learning disabilities are found to use more derogatory comments and are unable to control and sustain conversations (Bryan et al., 1982). It is clear that individuals with learning difficulties exhibit negative social behaviours; the explanations for these behaviours are less clear. It is possible that individuals with learning disabilities are unable to adequately perceive social situations (Gerber & Zinkgraf, 1982). It is also possible that individuals with learning disabilities misperceive the comments of others, perhaps showing deficits in social cognition (Sobol et al., 1983). Another line of research suggests that individuals with learning disabilities are cognisant of their social problems (Sobol et al., 1983). However, they may not be able to modify their behaviour to avoid such social problems.

2.5 IDENTIFICATION OF LEARNING DISABILITY

The first step in solving any problem is realising there is one. When a baby is born, the parents eagerly wait for the baby's first step, first word and a myriad of other "firsts." During routine checkups, the paediatrician, too, watches for more subtle signs of development. The
parents and doctor are watching for the child to achieve developmental milestones. Parents are usually the first to notice obvious delays in their child reaching early milestones. The paediatrician may observe more subtle signs of minor neurological damage, such as a lack of coordination. But the classroom teacher, in fact, may be the first to notice the child's persistent difficulties in reading, writing, or arithmetic. As school tasks become more complex, a child with a learning disability may have problems mentally juggling more information.

The learning problems of children who are quiet and polite in school may go unnoticed. Children with above average intelligence, who manage to maintain passing grades despite their disability, are even less likely to be identified. Children with hyperactivity, on the other hand, will be identified quickly by their impulsive behaviour and excessive movement. Hyperactivity usually begins before age 4 but may not be recognised until the child enters school.

What should parents, doctors, and teachers do if critical developmental milestones haven't appeared by the usual age? Sometimes it's best to allow a little more time, simply for the brain to mature a bit. But if a milestone is already long delayed, if there's a history of learning disabilities in the family, or if there are several delayed skills, the child should be professionally evaluated as soon as possible. An educator or a doctor who treats children can suggest where to go for help.
2.5.1 Diagnosis

Learning disability is defined as a significant gap between a person's intelligence and the skills the person has achieved at each age. This means that a severely retarded 10-year-old who speaks like a 6-year-old probably doesn't have a language or speech disability. He has mastered language up to the limits of his intelligence. On the other hand, a fifth grader with an IQ of 100 who can't write a simple sentence probably does have LD.

Learning disorders may be informally flagged by observing significant delays in the child's skill development. A 2-year delay in the primary grades is usually considered significant. For older students, such a delay is not as debilitating, so learning disabilities aren't usually suspected unless there is more than a 2-year delay. Actual diagnosis of learning disabilities, however, is made using standardised tests that compare the child's level of ability to what is considered normal development for a person of that age and intelligence.

Test outcomes depend not only on the child's actual abilities, but on the reliability of the test and the child's ability to pay attention and understand the questions. Testing a child in an isolated room can sometimes help the child concentrate and score higher.

Each type of LD is diagnosed in slightly different ways. To diagnose speech and language disorders, a speech therapist tests the child's pronunciation, vocabulary, and grammar and compares them to the developmental abilities seen in most children of that age. A psychologist tests
the child’s intelligence. A physician checks for any ear infections, and an audiologist may be consulted to rule out auditory problems. If the problem involves articulation, a doctor examines the child’s vocal cords and throat.

In the case of academic skills disorders, academic development in reading, writing, and mathematics is evaluated using standardised tests. In addition, vision and hearing are tested to ensure that the student can see words clearly and can hear adequately. The specialist also checks if the child has missed much school. It is important to rule out these other possible factors. After all, treatment for a learning disability is very different from the remedy for poor vision or missing school.

Attention Deficit Hyperactivity Disorder (ADHD) is diagnosed by checking for the long-term presence of specific behaviours, such as considerable fidgeting, losing things, interrupting, and talking excessively. Other signs include an inability to remain seated, stay on task, or take turns. A diagnosis of ADHD is made only if the child shows such behaviours substantially more than other children of the same age.

If the school fails to notice a learning delay, parents can request an outside evaluation. Parents should stay abreast of each step of the school’s evaluation. Parents also need to know that they may appeal for the school’s decision if they disagree with the findings of the diagnostic team. Some parents feel alone and confused when talking to learning specialists. Such parents may find it helpful to ask someone they like and trust to go with them to school meetings. The person may be the child’s clinician or
caseworker, or even a neighbour. It can help to have someone along who
knows the child and can help understand the child's test scores or learning
problems.

2.6 COPING STRATEGIES

The effects of learning disabilities can ripple outward from the
disabled child or adult to family, friends, and peers at school or work.

Children with LD often absorb what others thoughtlessly say
about them. They may define themselves in the light of their disabilities, as
"behind," "slow," or "different."

Sometimes they don't know how they're different, but they know
how awful they feel. Their tension or shame can lead them to act out in
various ways--from withdrawal to belligerence. They may get into fights and
stop trying to learn and achieve, and eventually drop out of school, or they
may become isolated and depressed.

Children with learning disabilities and attention disorders may
have trouble making friends with peers. For children with ADHD, this may be
due to their impulsive, hostile, or withdrawn behaviour. Some children with
delays may be more comfortable with younger children who play at their level.
Social problems may also be a product of their disability. Some people with
LD seem unable to interpret tone of voice or facial expressions.
Misunderstanding the situation, they act inappropriately, turning people away.

Without professional help, the situation can spiral out of control.
The more children or teenagers fail, the more they may act out their frustration
and damage their self-esteem. The more they act out, the more trouble and punishment it brings, further lowering their self-esteem.

Having a child with a learning disability may also be an emotional burden for the family. Parents often sweep through a range of emotions: denial, guilt, blame, frustration, anger, and despair. Brothers and sisters may be annoyed or embarrassed by their sibling, or jealous of all the attention the child with LD gets.

Counselling can be very helpful to people with LD and their families. Counselling can help affected children, teenagers, and adults develop greater self-control and a more positive attitude toward their own abilities. Talking with a counsellor or psychologist also allows family members to air their feelings as well as get support and reassurance.

Many parents find that joining a support group also makes a difference. Support groups can be a source of information, practical suggestions, and mutual understanding. Self-help books written by educators and mental health professionals can also be helpful.

Behaviour modification also seems to help many children with hyperactivity and LD. In behaviour modification, children receive immediate, tangible rewards when they act appropriately. Receiving an immediate reward can help children learn to control their own actions, both at home and in class. A school or private counsellor can explain behaviour modification and help parents and teachers set up appropriate rewards for the child.
Parents and teachers can help by structuring tasks and environments for the child in ways that allow the child to succeed. They can find ways to help children build on their strengths and work around their disabilities. This may mean deliberately making eye contact before speaking to a child with an attention disorder. For a teenager with a language problem, it may mean providing pictures and diagrams for performing a task. For students with handwriting or spelling problems, a solution may be to provide a word processor and software that checks spelling. A counsellor or school psychologist can help identify practical solutions that make it easier for the child and family to cope day by day.

Every child needs to grow up feeling competent and loved. When children have learning disabilities, parents may need to work harder at developing their children's self-esteem and relationship-building skills. But self-esteem and good relationships are as worth developing as any academic skill.

2.7 REMEDIAL MEASURES IN THE TEACHING OF LEARNING DISABLED

Over the past few years a growing number of people in all walks of life have become involved with children who have learning disorders. And a mammoth amount of written material has accumulated concerning this type of child. As with any popular cause or crusade, however, differences of opinion on the part of many workers in the field have led to a great amount of confusion in the recognition of, as well as the management of, this problem.
There are several reasons why such confusion has occurred. The most important factor is probably the diverse backgrounds and different approaches of the various interested parties. At present, the child with learning problems may be seen and evaluated by any one or all of the following: classroom teacher; special-resource teacher, counsellor, social worker, physician, speech, hearing or language specialist, nurse, nutritionist, occupational therapist; physical therapist; and many others in related fields. Even the type of physician involved may vary from generalist to paediatrician to neurologist to psychiatrist. Since each field uses its own background, approach, and terminology, it is no wonder that confusion reigns supreme.

Another very definite problem is the failure of the various workers to communicate with each other, as well as with the parents and with the child himself. Certainly one of the reasons for this one-sided type of approach is the lack of a common ground on which to establish lines of communication. Another reason is the fear that one discipline or the other will "take over" the child and will exclude all of the other interested parties. And, of course, the result is often a lack of important information by one party or another.

A third and obviously vital difficulty lies in the failure of the child and his parents to be included in the deliberations on his fate. A poor learner knows he is having problems, just as he would know if he couldn't throw a ball or skip rope as well as some other children do. The parents of this particular
child also know there is a problem. However, it is not necessarily an easy matter to move on to the next logical step— that is, having the child and his parents accept the problem and getting them to work with the proper specialists to help solve it.

The following aspects should be borne in mind while taking remedial measures in teaching the children with learning disabilities:

1. There are a large number of causes for learning disorders. No one discipline or investigator can hope to know everything about the non-learner. All disciplines must learn to work together and share their knowledge as well as their resources, so as to direct this pool of information at the child with a problem.

2. It is of the greatest urgency to identify the child with a problem as quickly and as early as possible. Once this is accomplished, a program of remediation should be undertaken, one that will include all the various disciplines working together with a common goal— the education of the child.

3. The child and his parents must be included in every step of planning. The entire programme for any particular child will be doomed to failure unless there is understanding and mutual cooperation between all parties involved.

4. No one of diagnosis or management should be held above any other. There is an overabundance of theories concerning children with
learning problems, many of which are yet unproven. When one becomes evangelistic in his approach, he is more interested in his own approach than in the child.

5. In the final analysis, it must be firmly established that there is but one person who is responsible for the ultimate learning progress of the child, and that is the teacher. The physician may make the child feel better by treating his illness; medication may help the child concentrate more appropriately; the psychologist may help him understand and deal with his problems better; the counsellor may help the family pull together better; and so on; Yet all of these are only corrections and embellishments; we can bring as healthy a child to the educational waters as we are able to, but it is the teacher who must establish the best way for this particular child to satisfy his learning thirst.

This last point is quite important and is often misunderstood. Children with educational problems can often be helped by various parties such as physicians, psychologists, physiotherapists, and others working in related fields. It is certainly necessary to enlist the aid of these professionals. However, the person who works most closely with the student is the classroom teacher. Therefore, the actual final strategy for each child can best be planned and carried out within the classroom. Of course, it is very important for the teacher to be able to communicate with all of the other disciplines, as well as with the parents and the child about the identification
and management of the child's problems. However, the fact remains that the teacher often spends more time each day with a particular child than the parent does, and certainly more time than the doctor does. Therefore, it is important that the teacher should recognise when something is going wrong and should begin treatment of the child's problems within the school setting, with the aid of all other concerned parties.

2.7.1 The School Responsibilities

It is urgent that the school and its component parts take an active part in the identification of the learning disabilities. The teacher must point out specific problem areas that have been observed in terms of academic performance, classroom behaviour and peer relationships. Certainly any physical problem the child may exhibit that the teacher feels is in some way different from the norm must be identified. The teacher can also provide important information concerning the child's day-to-day activities and performance and can decide whether this meets the school's expectations for this particular child.

The most important thing to consider in this communication is the type of specific information needed. It is urgent that both the physician and the parent know exactly why the teacher feels that there is a problem, what he thinks precipitated it, and how long it has been going on. The teacher can also be quite helpful to the doctor by providing a descriptive account of the child's behaviour with comments on why it is considered abnormal
behaviour for that particular child. Finally, the school personnel should fully explain to the parent and the physician just what the school expects from them. A concerted effort must be made to let the doctor and parents know exactly how the school views the child and what types of strategies might be employed to help that child get back on the right path to his normal potential.

2.7.2 The Parents' Role

A most important part of our triangle is the role of the persons ultimately responsible for the child - the parents. Without the help, cooperation, advice, and understanding of the parents, there will be very little long-lasting remediation. In many instances, the parents are well aware that there is a problem long before schooling begins. The child may have shown some deviation in development through the first years of life, such as a delay in motor, language, or social areas. Certainly a child who has any type of chronic medical illness is a likely candidate for some type of learning problem.

If a question is raised concerning the child at any point in his progression through the learning experience, whether in preschool, kindergarten, or beyond, the parents must immediately be made aware of what kinds of problems are perceived by the observer. The physician and the teacher are in a very good position to serve as identifiers and clarifiers anywhere along the way. Developmental and medical problems should be shared with the parents as soon as they are discovered.
As the child advances through the school years, problems perceived by the teacher can be shared with the parents. The parents must fully understand the entire scope of what is being said about their child at all times. Occasionally they will disagree, sometimes violently, with the school's perception of their child. The teacher should try not to take issue with this type of response but perhaps could attempt to understand what prompted it in the first place.

When possible, it may be wise to use the physician as a mediator in these disputes. Perhaps the matter is only one of a minor misunderstanding, although in some cases there may be a major disagreement. Some parents will attempt to blame all of the child's educational difficulties on the teacher and the school. When this happens, it is even more important to attempt to come to some kind of meeting of the minds so that the child will not suffer.

The parent not only must understand what the child's problem is in the classroom, but he must also be made a working part of the solution. There are many approaches to remediation, but suffice it to say none of these will be successful without the full cooperation of the parent. The important point to remember here is that the parent should not be expected to introduce new concepts or to develop strategies, but should only assist and support the teacher when possible, feasible, and productive. It can be useless and perhaps dangerous to expect a parent to teach a child a subject at night that
the teacher had problems with during the day. Not only can the learning experience fail, but the child-parent relationship may then start to deteriorate.

The physician's role is also important. The doctor takes a medical and physical history form the parents, conducts a physical and neurological examination of the child, receives important information from the school, and then blends his idea of what type of difficulty a child may be having to come into harmony with the other educational musicians and instruments. The medical reports must be quickly and completely available to school personnel, and then together with the parents, the doctor and the school should consider what best can be done for the child.

2.8 MODELS FOR REMEDIAL TEACHING

It is important to understand the components of a remedial programme, primary so that teachers realise there is nothing mystical about the process of remediation learning disabilities. The extent to which a child will meet the success depends undoubtedly on how well-structured and organised the teaching programme is. Some models of remedial teaching which are very helpful to the learning disabled children in overcoming their difficulties are given below:

2.8.1 Resource Room Model

The resource room model is ideally suited to Indian conditions where typically there are 45-50 students in each class and individual attention is impossible. Children with learning disabilities may need help in one or
more of the academic areas (reading, writing, spelling, oral and written comprehension, mathematics). If the discrepancy is great, the child will not be able to cope with regular teaching in the classroom. It is better if he is removed from the class for certain time periods to receive intense help in the resource room. The resource room employs a teacher with some background in special education. He/she works in collaboration with the classroom teachers, setting annual and short term objectives, designing worksheets that can be used in class, monitoring student's progress and meeting parents. The resource room teacher must be a full time staff. Experience has shown that recruiting part time experts works out to be inefficient. A key factor for the success of the resource room facility is scheduling the time table in such a way that the child does not feel isolated, and yet receives the maximum help possible. On an average, one teacher can generally serve eighteen students per week and it would be self-defeating to increase the number in the resource room simply because teachers in the regular classroom cannot cope with difficult children. In a resource facility, the children can ask questions confidently and discuss their problems without feeling peer pressure.

2.8.2 Itinerant Programme

Another way of implementing a remedial programme is to appoint an expert teacher to come into school on specific days of the week to teach the children with learning disabilities. The itinerant teacher generally works with several schools. One drawback of this model is that the teacher
tends to function in isolation from other staff members, thereby eliminating the
team work which is so essential for the success of this programme.

2.8.3 Special Education Programmes

The special education programme involves Diagnostic
Prescriptive Approach in which Ability Training Model (Process Model) and
Skill Training Model (Task Analysis Model) can be employed as remedial
measures. Psycholinguistic training, visual perceptual approach, perceptual-
motor approach, multi-sensory approach and the precision training approach
are some of the ability training programmes whereas DISTAR (Direct
Instructional System for Teaching Arithmetic and Reading), the wide range
achievement test, Metropolitan Achievement Test and other skill tests
developed on the foundation of the Task Analysis, all of these are
successfully used in developed countries, can be used by making necessary
modifications as remedial measures for learning disabled children.

2.9 CONCLUSION

Learning disability is a disorder which can be remedied using
appropriate instructional strategies. The early diagnosis of the problem is
very important in remedial teaching as it is very difficult to correct a child in a
later stage. Parents, teachers, educationists and doctors all should co-
ordinate in finalising the strategy required for the intervention in teaching the
learning disabled child. Schools should adopt flexible approaches to testing
and evaluation of the learning disabled child. There must be at least one full
time teacher who is a trained special educator and has experience with using specific remedial methods in teaching reading, writing and mathematics. In this era of information technology, specific software can be easily developed which will be of great use to the learning disabled children in overcoming the difficulties they face in reading, listening and mathematics. By practising these techniques at an early stage, the learning disabled child can be mainstreamed without much difficulty.
References


