Chapter Two

Review of Literature

This chapter discusses the various methodologies and reading theories in general and focuses in particular on issues related to the reading problems of pupils with learning disabilities in special educational classrooms. It also looks into some of the more pertinent research done in this field.

2.0 Introduction

Teaching children with learning disabilities in schools is highly complex and challenging. We have to examine what is at stake before embarking to provide education for these pupils in mainstream schools; by drawing attention to the significant factors in such provision; by documenting the experience of practitioners, and noting the lessons to be learnt; and by offering guidance to inform practice (Hegarty, Pocklington & Lucas, 1981).

Pupils with learning disabilities may have problems related to limited mental ability, social and emotional problems, sensory impairments or specific learning disabilities. These problems may vary from student to student in terms of type and severity.

The pupils with learning disabilities covered under this study in the special education classes generally fall into the following categories:

i) Dyslexics
ii) Autistics

iii) Slow learners

iv) Those suffering from Attention Deficit Disorder (ADD)

Kirk and Gallagher (1979) have further divided slow learners generally into two broad groups:

(i) Academic disabilities and

(ii) Developmental disabilities.

They use the term academic disabilities when the students’ performance in reading, writing, spelling, and arithmetic falls below the expected level. Developmental learning disabilities involve lack of those skills that are prerequisites to successful performance.

These include:

(1) Disorders of attention

(2) Perceptual and receptive disorders

(3) Limited mental operations of memory, seeing relationships, generalising, associating

(4) Language disorders including limited ability to decode and encode concepts, either verbal or motor.

Children with learning problems do need to be identified at the earliest possible moment, ideally before they have to experience prolonged periods of educational failure. Observation of behaviour needs to be objective instead of being generalised. The pupils must be identified and the teacher must know the details required with direct implication for planned intervention.
According to Westwood (1975), teachers of young children have to watch for the prognostic signs of possible learning difficulties which can be concluded when child is observed to (i) spend most of his/her time on tasks requiring minimal intellectual effort (ii) presents poor performance in most activities attempted (iii) has a short span of attention (iv) shows poor understanding of stories read to group (v) has difficulty in coordinating movements (vi) is poor at tasks requiring hand-eye coordination (vii) has difficulty in learning simple songs and following instructions (viii) shows inability to remember articulation (ix) has limited vocabulary (x) presents with hyperactivity (xi) has a low threshold of frustration and is over-aggressive or disruptive. (xii) shows withdrawal from interpersonal contacts (xiii) and in the case of the slow learner, lack of recognisable improvement with the passage of time.

Researchers and experts in the field of remedial education have stressed the theories and concepts of identifying the pupils with learning disabilities according to their characteristics. To bring about a remedial programme for the pupils with learning disabilities, we have to first understand the concepts of remedial teaching. The definition given by Kirk and Gallagher (1979, pg. 285) of learning disabilities is,

"A specific learning disability is a psychological or neurological impediment to spoken or written language or perceptual, cognitive or motor behaviour. The impediment is manifested by discrepancies among specific behaviours and achievements or between evidenced ability and academic achievement, is of such nature and extent that the child does not learn by instructional methods and materials appropriate for majority of children and requires specialized procedures for development, and is not primarily due to severe mental retardation, sensory handicaps, emotional problems, or lack of opportunity to learn."
This definition includes three criteria that have to be present before deciding that a student has a learning disability. Firstly, there must be significant discrepancies in the development of the student’s psychological behaviour or unexplained disparities between the student’s academic achievement and other abilities and achievements. Secondly, these students require a remedial programme in order to develop and progress. Thirdly, mental retardation, auditory or visual impairment, emotional disturbance, or lack of opportunity to learn are excluded from the students’ diagnosis.

Learning disabilities (LD) refer to a heterogeneous group of disorders that are characterized by difficulties in acquiring and using listening, speaking or mathematics abilities. These types of problems are presumed to result from a central nervous system dysfunction (i.e. genetic, bio-chemical or structural anomalies). A learning disability may occur concomitantly with other handicapping conditions (i.e. low IQ, psychogenesis factors) but does not result from the said conditions. LD is the acronym for learning disabled, learning disability and learning disabilities.

Teachers are the key to reaching out to these pupils. Teachers’ competence in handling and teaching pupils with LD is a function of numerous factors: general teaching skills; perceptions of the pupils and attitudes towards them, and the precise nature of the pupils’ needs; the teaching context and the kind of support available. (Hegarty, Pocklington & Lucas, 1981, p148).
All remedial reading instructions must be planned to meet the needs of the individual student; therefore, thorough diagnosis is indispensable. Although exactly what is included in this diagnosis, what diagnostic instruments are used, who is involved in making the diagnosis and when and where the diagnosis takes place will vary with the circumstances (Gilliland, 1978).

Structured informal assessment enables the teacher to examine four aspects of reading, namely response to books, general reading strategies, automatic recognition of sight words, and knowledge of sound-symbol relationships. Assessments can be made of the stage the child has reached in each of these four aspects (Reason & Boote, 1986).

Children with LD related reading difficulties are characteristically unable to remember words, and are poor at checking whether the structure of a word matches their guess. Such children feel more secure and make more progress with a reading scheme. These schemes include Fuzzbuzz (Oxford), Approach Trend (Ginn), Starpol (Ginn), Oxford Reading Tree or Open Door (Nelson). Using reading schemes successfully requires careful preparation and monitoring by the teacher (Reason & Boote, 1986).
2.1.1 Early Signs of Learning Disabilities

Parents should be aware of the most frequent signals of learning disabilities when a child has the following symptoms:

- Difficulty understanding and following instructions
- Trouble remembering what someone just told him
- Fails to master reading, writing and or/ math skills and thus fails school work
- Easily loses or misplaces homework, school or other items
- Lacks coordination like walking, sports or small activities such as holding a pencil or tying a shoelace

"The phenomenon of learning disabilities has been studied and investigated extensively, with numerous professional organizations advocating the rights of individuals with LD to receive appropriate educational services in the least restrictive educational environment"(Learner,1985). An increasing consensus attributes LD to neurological dysfunction. Although LD poses an impediment to an individual’s ability to function in school or society, it should not prevent anyone from becoming successful in school and in life. Those with LD can be taught in our school programmes in the least restrictive environment. They can learn effectively when appropriate teaching methods are used and when provided with tools that facilitate their learning."
2.1.2 Remedial Reading Goals

The primary goal of remedial reading instruction is to develop student’s decoding and comprehension reading skills within a meaningful context. The ultimate purpose is to expose the students to the world of reading, which involves both reading for enjoyment through literature and appreciation of reading as a communication tool. It requires an active involvement in which the reader uses prior knowledge or schemata to facilitate understanding of the text. It is the meaningful interpretation of printed or written verbal symbols. Reading serves both as a communication tool and information-gathering tool. As a communication tool, it provides for the immediate communication of a writer’s intention and ideas and it opens the door to the sharing of experiences. Reading facilitates effective daily living, ‘It is the loyal road to learning’ (Harris, A.J.& Sipay, 1980). It is the key to learning and personal enjoyment.

Reading is the most important subject to be learned by children; a child will learn little else in today’s world if it does not first learn how to read properly. The reported prevalence of reading difficulty varies from 85 % to as high as 90%. (Chua Tee Tee. 1978: 34). The situation has not improved much today. These reading difficulties adversely affect those with LD as they progress through school. They do not only cut off pupils from intellectual enrichment, but are likely to experience failure and be deprived of occupational opportunities later in their lives.
2.2 Symptomology: Characteristics of Learning Disabilities.

Symptomology is a study of symptoms and characteristics. The term attempts to describe the symptoms or characteristics that are general behavior patterns of individuals who are assumed to be indicative of their disorders. From this perspective, one would assume that there are typical behavioral patterns associated with LD and therefore, the presence of such symptoms confirms the existence of LD. According to Mercer (1991: 45), there are 10 behavioral characteristics in order of frequency, as reported by parents of LD students, which are as listed below.

2.2.1 Attention and Concentration Difficulties
To succeed in school, a student must recognize and maintain thought on relevant classroom tasks and must be able to shift attention to new tasks. Students with attention problems are unable to screen extraneous stimuli and are attracted by irrelevant stimuli. They might exhibit short attention span and distractibility.

2.2.2 Socio-emotional Problems

Frustrated by their leaning disabilities, many students with LD act disruptively and acquire negative feelings of self-worth. Rather than learning and developing attitudes about the tasks they can do, youngsters with LD often learn what they cannot do. Due to their repeated failures, children with LD frequently experience problems interacting with parents, teachers, peers or strangers.
2.2.3 Meta-cognitive Factors

Basically, the meta-cognitive factors are:

i) an awareness of the skills, strategies and resources needed to perform a task effectively and

ii) the ability to use self-regulatory mechanisms, such as planning moves, evaluating, checking the outcome of effort, remediating difficulties, and ensuring the successful completion of tasks.

2.2.4 Discrepancy Factor

A discrepancy exists when the estimated ability and the academic performance of the student differs greatly. Discrepancy, basic to the idea of underachievement, can be across one or all skills in a child with LD.

2.2.5 Perceptual Disorders

Perceptual problems are manifested by the inability to recognize, discriminate and interpret sensation, especially with visual and auditory disabilities. Some common fields include visual reception, visual discrimination, visual memory and intersensory integration.
2.2.6 Language Disorder

Language problems like reading and maths difficulties are interpreted in terms of the discrepancy components. "It is estimated that 50% of individuals with LD have language defects. Research indicates that many children who neither do nor read well suffer from underlying language problems because language skills are so closely related; it is sometimes difficult to determine the primary disability." (Espin & Stanley, 1993).

2.2.7 Hyperactivity

Hyperactivity is in conjunction with attention problems. Generally, hyperactivity refers to an excess of nonpurposeful motor activity e.g. finger and foot tapping, asking questions incessantly and often repeating the same question and an inability to sit and stand still.

2.2.8 Memory Problems

Students with LD usually have problems remembering auditory and visual stimuli. It is found that measures of memory differentiate students with LD from slow learners and average students. Students with LD exhibit distinct deficiencies in working memory (Mercer, 1991). Teachers frequently report that students with learning disabilities forget how to spell words, mathematical formulae and directions.
2.2.9 Academic Learning Difficulty

Academic problems are the most widely accepted characteristic of individuals with LD. These students have problems in basic reading skills, reading comprehension, written expression and mathematics. Reading problems are the most common.

2.2.10 Poor gross motor development

Students with motor problems might walk with a clumsy gait or have difficulty throwing or catching a ball, skipping or hopping. Some others exhibit fine motor difficulties when cutting with scissors, buttoning or zipping.

2.3 Neurology and learning disabilities

The fields of medicine and learning disabilities are closely linked because both physicians and educators are concurrently involved with students who have learning disabilities, and understand the practice of both disciplines. Educators should be aware of current medical practices and physicians should be cognizant of educational interventions.

According to Fox (1979: 7); all learning occurs in the brain and is facilitated by the nervous system. Neurology is the medical speciality that focuses on the structure and functions of the nervous system. Considering that subtle or minimal disorders or abnormalities in the nervous system result in learning problems, the neurological field is
most frequently involved in the field of learning disabilities. Similarly, Abdul Halim Jalil (1990: 27) states that learning disability is the most common neurological disorder among the school-aged population. In view of this, educators focus on developing appropriate teaching techniques for students with learning disabilities, whereas the neurologists seek to diagnose the presence of abnormalities in neurological structure and function.

The learning process is hindered in children with learning disabilities because of malfunctions of the brain in processing information; "Deep in the roots of the discipline of learning disabilities we find the concepts of brain damage, brain dysfunction and minimal brain damage" (Gearheart and Carol, 1989: 26). Why this happens most frequently remains unknown but the teachers concerned must have a fundamental understanding of the nervous system and the brain, which controls it.

2.4 The Organization of Reading Skills in L.D. ✓

To assess or teach reading skills effectively in LD, it is helpful to understand the general organization of reading content and its related sub-skills. Reading content is divided into word recognition skills and comprehension skills. Teachers in the field of LD education commonly use seven strategies of word recognition (Mercer, 1991:500), which are as follows:

1) Configuration which refers to the outline or general shape of a word. Word length, capital letters and height can provide some visual cues to the unskilled reader.
II) Context analysis is the skill of using the words or phrases to determine the unknown element. Semantic and grammatical cues help the reader predict word possibilities according to context. Likewise, pictures can provide context cues.

III) Sight words are those the reader recognizes without applying phonetic analysis. Sight words include frequently used words as well as words the reader knows instantly from repeated exposure. Many words in English that have irregular spellings are thought of as sight words; that is, they are learnt as whole words.

IV) Phonics analysis refers to decoding words by symbol-sound associations. It involves learning phonemes and rules concerning the various sounds such as those pertaining to single initial consonants, initial and ending consonant blends, consonant diagraphs, silent consonants, short and long vowel sounds, and vowel teams and special combinations.

V) Syllabification is the process of dividing a word into its component parts. Each syllable contains a vowel sound.

VI) Structural analysis deals with meaningful units such as root words, prefixes, suffixes, possessives, plurals, word families and compound words. Comprehension of these structures permits a faster rate of reading than does analyzing individual sounds.

VII) Dictionary analysis is seldom used for word recognition. However, it does provide an independent means of pronouncing unknown words by using the pronunciation of key symbols in a dictionary or from a chart.
2.4.1 Areas in Reading Comprehension

The following are the five major areas in reading comprehension. (Ekwall & Shankar, 1985; Smith & Barrett, 1974).

I) Vocabulary development is essential for the reader to understand the words a writer has used. A background of meaningful experience of exposure to books, people, places, and learning words from context (through a variety of reading materials) help develop vocabulary.

II) Literal comprehension refers to the recognition and recall of explicitly stated information. Some of the skills involved in literal reading include reading for central thoughts and main ideas, noting and remembering significant details, noting the order or sequence of events, and finding answers to specific questions.

III) Inferential comprehension requires the reader to make a hypothesis based on stated information, intuition and personal experience. Grasping cause-effect relationships, anticipating the remainder of a story and forming opinions are inferential comprehension skills.

IV) Evaluation deals with judgment based on the reader's experiences, knowledge or values. It focuses on qualities of accuracy, acceptability, and worth or probability of occurrence. It includes determining validity and judging the difference between reality and fantasy or fact and opinion.

V) Appreciation deals with being emotionally sensitive to function at this level; the student identifies with characters and incidents and can verbally express emotional feelings about the work, e.g. excitement, fear, boredom.
2.5.0 Developing Reading Skills in LD

Mercer (1991:501) discusses three models in the teaching of reading that differ in the importance they attach to the text and its meaning. The bottom-up model emphasizes that readers proceed from text to meaning, that is letters and words are perceived and decoded and then the text’s meaning is comprehended. In contrast, the top-down model emphasizes that they rely on prior knowledge and the comprehension of the meaning of the textual material rather than on word recognition and decoding of individual text elements. In essence, in the bottom-up model, reading depends primarily on the reader’s skill in sound-symbol association and word recognition, whereas in the top-down model the focus is on the reader’s ability to question, hypothesize and comprehend rather than on decoding individual text elements. Finally, the interactive model emphasizes both text and meaning by proposing that reader’s shift between attending to text (i.e. specific letters and words) and what is in their minds (i.e. predicting or hypothesizing). For example, a reader might use a top-down approach when the material is familiar but change to a bottom-up approach when confronted with an unfamiliar text.

Growth in reading skills occurs in several stages. Knowing the stages helps the teacher select assessment tasks, develop instructional goals and choose instructional approaches. In addition, careful monitoring students’ progress helps determine when the students move from one level to the next. Kirk, Kluebhan, Lerner (1978: 502) divided reading development into six stages, from 0-5, covering from pre-reading to highly skilled reading. (0) pre-reading, (1) initial reading or decoding, (2) confirmation, fluency
and ungluing from print, (3) reading for learning the new, (4) multiple viewpoints, and (5) construction and reconstruction. The five stages are discussed in detail below.

Stage 0: Pre-reading

During the pre-reading stage, from birth to about the age of six, children gradually and unsystematically accumulate understanding about reading. Most children acquire some knowledge and insight into print and learn to recognize letters, common signs and common words. Many children can print their own name and pretend they can read a story that has been read to them frequently. Mercer (1991: 495) notes that pre-reading activities should include parents’ reading to children (especially involving the child actively by discussing stories and learning to identify letters and words), experience with environmental print (e.g. fast-food restaurant signs, food labels, traffic signs) and children’s art and play activities.

Stage 1: Initial Reading or Decoding

The initial reading stage (first to second years of schooling) involves learning to use letter-sound relationships to decode printed words not recognized immediately. Children learn to recognize words and understand materials in their books. However, what they can read at this stage is considerably below what they can understand in speech. Often the students read slowly, word-by-word, trying to break a detailed, complicated code. Some students experience difficulty acquiring decoding skills because they have problems with the phonological aspects of language.
Stage 2: Confirmation, Fluency, and Ungluing Print

In the second to third year of schooling, what students have previously learnt about word recognition and the use of decoding skills is consolidated to help them comprehend familiar texts. At this stage, students automatically begin to use the tools acquired previously, attain fluent reading and are able to read grade-level materials in the range of 100-140 words per minute with fewer errors. By using decoding skills along with repetitions inherent in the language and stories read, students gain competence in using context and consequently improve their fluency and reading rates. Most students develop rapid word recognition as a result of a familiarity that develops from extended practice; however, students with reading problems require additional practice and repetition to reach automaticity.

Stage 3: Reading for New Learning

This stage, which begins in the fourth year of schooling and continues through to the eighth year, marks the beginning of reading to learn as opposed to learning to read in earlier years. Reading is used to gain new knowledge, experience new feelings and learn new ideas and attitudes. Thus, students acquire a rich base of information, vocabulary and concepts by reading a variety of materials. At this stage, silent reading is done in large units (e.g. a complete story or selection), and word study is concerned more with meanings and with recognition or decoding because the reading materials contain more unfamiliar, abstract, technical and literary words. The author suggests that students with learning disabilities who read with slow and inaccurate decoding skills might fail to learn
many of the concepts that are typically acquired during this stage by inference from the context and by reasoning from prior knowledge.

Stage 4: Multiple Viewpoints
Reading at secondary school level requires students to deal with a variety of viewpoints and to compare and evaluate information from various sources. Secondary students are expected to read complete texts in advanced content areas. Through reading and studying materials that vary widely in type, content and style, students practise acquiring difficult concepts and learning new concepts through reading. The failure of a student with learning disabilities to monitor understanding of the text might be caused by an inability to decode rapidly and efficiently or the lack of necessary information to understand the topic. It is also suggested that supplementary materials emphasizing vocabulary and background information should be developed to accompany content-area textbooks to help students with learning disabilities profit from reading in the content areas.

Stage 5: Construction and Reconstruction
At the college level, students read books and articles in detail and depth that they need for their own purpose. From reading what others say, students construct knowledge for their own use. At this stage, the reader synthesizes information and forms hypotheses that are usually restricted to a specific area of study at an advanced level. Thus, reading at this stage requires extensive background knowledge in highly specialised content areas.
2.6.0 Remedial Reading Programmes and Approaches

Remedial programmes and approaches are designed to teach reading to students who have or would have, difficulty learning to read in the regular classroom reading programme. Among the many strategies or interventions that teachers may use are those that are intended to be total reading approaches (at least for a time) and variations of them. The following are among those often used as suggested by Mercer (1991: 524)

2.6.1 Reading Mastery: DISTAR

The Direct Instruction System for teaching Arithmetic and Reading (DISTAR-Englemann & Bruner, 1983) consists of the Reading Mastery basal reading series. It is an intensive, highly structured, programmed instructional system designed to remediate below average reading skills of students through to the third year. The students are grouped according to their current abilities with no more than five students in a group. Each day, one 30-minute lesson is presented. Each student receives positive reinforcement (praise or points) for correct responses. A student who masters skills (indicated by performance on tests) changes groups.
2.6.2 Rebus Approaches

The rebus approach to readiness and beginning reading instruction involves the use of picture words-rebus, rather than spelled words. Reading materials use pictures instead of printed words. This is because each picture has only one obvious meaning. Reading is quite easy, for example, dog is simply a picture of a dog.

2.6.3 SRA Corrective Reading Programme

The SRA Corrective Reading Programme (Engleman & Bruner, 1983) is based on the concepts of DISTAR. The programme is divided into sections on decoding and comprehension for years 4 through 12. The programme consists of 680 lessons. Each lesson lasts 35 to 40 minutes and includes teacher-directed activities, independent work and tests to determine mastery. Emphasis is placed on reinforcement by the use of contracts and progress charts.

2.6.4 Phonic Remedial Reading Lessons

The Phonic Remedial Reading Drills (Kirk et.al, 1985), are designed to teach phonic skills to students who are reading below the third year level, especially those who have failed to learn to read after a number of years in school.
The Lessons are systematic presentations of various letter sounds, with repeated practice in blending phonetic elements that are eventually blended into words. The student is encouraged to write the letter from memory as the sound is produced. The lessons provide a well sequenced presentation of phonic principles as well as much repetition and practice for those who may benefit from such an approach.

2.7 Summary

This chapter has reviewed the related literature on the LD and how to identify these students. In the process, works of prominent local and foreign authorities on LD studies, methodologies and approaches were examined and cited.