Chapter 1

INTRODUCTION

1.1 Background of the Problem
1.2 Need and Significance of the Study
1.3 Statement of the Problem
1.4 Definition of Key Terms
1.5 Objectives of the Study
1.6 Hypotheses of the Study
1.7 Scope of the Study
1.8 Delimitations of the Study
1.9 Organisation of the Study
INTRODUCTION

“Children must learn to read so that they can later read to learn.”

(Bryant, 1985)

1.1 Background of the Problem

The emergence of concepts like child-centered education, developments in the fields of science and technology, particularly in information and communication technology, has resulted in a change/shift in emphasis from group teaching or learning to individualised teaching and learning. Consequently, states and societies today hold that each and every individual has the right and must be provided with opportunities to grow at best his or her all capabilities and capacities so as to be able to contribute significantly in the progress and development of the society and the country.

Learning is a step by step, complex, interwoven and multilevel process. It comprises of the processes of input, processing and output. Each of these has several essential components. The impairment or dysfunction of any one of these causes problems in learning. Every child is very precious, and needs to be carefully and lovingly nurtured to be able to develop to his or her fullest capacities. There are children with special needs, for whom the nature and intensity of required care is even more significant. They may alternately be trapped behind the wall of institutions; some loveless and ill-equipped, others technically strong, but still segregated from society.

Till a few years ago, special educational services were almost provided in segregated special instructional settings like special schools. With the advent of integration and inclusion, special education services are now also provided in regular school settings. Thus, special education can include special instruction in the classroom, at home, in hospitals or institutions or in other settings. Special education often calls for changes in what is taught (the content), how it is taught (the methods of instruction), materials or teaching aids, and also the time and rate at which these students are expected to show a progress. Because, the needs of
these children vary, special education demands flexibility and innovations in teaching practice.

The field of learning disabilities is the newest challenging subarea of the broader field of special education. It has been the fastest growing, the most controversial, and often the most confusing area. People with learning disabilities have uneven development of skills. What they learn, how they learn, the type of people they are and the way the learning disability affects non-academic areas of life such as friendships and job success are very different. A variety of motor, social, memory, organisational and attentional problems may also negatively impact academic achievement, metacognition, motivation, self-esteem, self-image, social interactions, peer and family relationships and the overall psyche (Tomblin et al., 2000).

In developed countries, learning disability researches have gone through a long way. In USA, till 1981, people with learning disabilities came under the protection of laws. More recent Federal laws specifically guarantee equal opportunity and raise the level of services to people with specific learning disabilities. Once a learning disability is identified, children are guaranteed a free public education specifically designed around their individual needs. Adolescents with disabilities can receive practical assistance and extra training to help make the transition to jobs and independent living. Adults have access to job training and technology that open new doors of opportunity.

According to conservative estimates, as many as 20% of all school children suffer from one or the other type of learning disorders. But only about 10% children are identified in Indian schools with learning disability. Most parents and teachers remain unaware of the problem and overlook it. Often parents and teachers blame each other for the problem. Parents accuse the teachers of wrong teaching practices and teachers accuse parents of not taking interest in the child. The distress caused by this problem is experienced by both parents and the child. The learning disabled child in spite of average intelligence is not able to cope with academic tasks in the school whereas in all other areas this child is just like any other normal average child. A child with learning disabilities suffers physical, mental, verbal or emotional abuse because his problem is not recognised.
In order to be identified as learning disabled, an individual must demonstrate a severe discrepancy between intellectual potential and achievement in reading, maths, written expression or language skills. In other words, the individual is achieving far less than that would be expected for his or her age and intellectual ability. Learning disability is a generic term that refers to a heterogeneous group of disorders manifested by a significant difficulty in listening, speaking, reading, writing, reasoning or solving mathematical problems (Hammill, 1990). These disorders are due to dysfunction of the central nervous system i.e., their brain works or is structured differently. These differences may interfere with his or her ability to think and remember. According to the current definition, learning disabilities are due to a disorder in a basic psychological process that causes one to achieve severely below his or her potential. The educational point of reference of this definition directs us to measure achievement and intellectual potential but it does not focus on the neurological contributors of the problem. According to the Federal definition, the retarded, emotionally disturbed, physically handicapped and economically disadvantaged also can be considered learning disabled if these conditions are not directly responsible for their severe discrepancy from expected achievement.

Learning disabled students with reasoning problems often have difficulty in verbalising what has been learnt, relating the concepts with symbolic language and understanding the instructor’s explanation. Reading is one such area where this deficit hampers learning. Of the students with specific learning disabilities receiving special education services, 70-80% have deficits in reading. Researches show that “reading is the most frequent cause of school failure”. Failure in the primary grades is almost wholly due to deficiencies in reading. There are numerous reading skills to be mastered at different grade levels. When the lower level techniques have been inadequately or imperfectly mastered, the acquisition of the higher level abilities becomes increasingly difficult.

The fact that a child may fail to learn to read and yet be of adequate intelligence is receiving attention from educators, psychologists, and psychiatrists. Learning to read is certainly a cognitive process, but it is also a very social activity, deeply imbedded in interactions with teachers and peers. It consists of two
integrative processes. The first process is use of language abilities, such as syntax and semantics for anticipating words. The second process consists of the acquisition and application of letter-to-sound relationships. The purpose of reading is to understand something that has been communicated in written symbols, to get an idea or a piece of information, or to share some experience. The reader, may, at one time, read merely to find the answer to a question, at another, to understand some intricate relationships, the range and variety of reasons for reading are unlimited. A proficient reader must be able to adjust his reading skills and basic comprehension abilities to whatever is his purpose at a given time.

The situation in our schools at present is such that not many children of normal intelligence is able to produce the desired result in the language skill of reading. Thus the development of reading skills is more or less neglected and the child ends up with learning difficulties. These problems in learning have come to be referred to as learning disability. More and more schools now-a-days are having children with difficulties in learning. Reading comprehension is accelerated if the topic of reading is appropriate to the age, developmental levels and experiential backgrounds of the pupils. Background knowledge of a pupil serves as scaffolding to aid in encoding information from the text. The word Dyslexia comes from the Greek meaning ‘difficulty with words’. 15-20% of the student population has a language-based learning disability. The best-known form of specific learning disability is, of-course, Dyslexia. It is often defined as a disorder manifested by difficulty in learning to read despite conventional instruction, adequate intelligence and socio-cultural opportunity. Other forms of learning disability have been identified as Dysgraphia (Problems with writing) Dysorthographia (problems with spelling) and Dyscalculia (problems with arithmetic calculation). The causes for Dyslexia are neurological and genetic. Individuals inherit the genetic links for Dyslexia. Chances are that one of the child’s parents, grandparents, aunts or uncles is Dyslexic. Dyslexia is not a disease. There is no cure. With proper diagnosis, appropriate instruction, hard work and support of family, teachers, friends and other individuals, Dyslexics can succeed in school and later as working adults.

Judging of existing learning disability is difficult, which involves consideration of intelligence, achievement in different areas, past educational
experiences, age, rate of learning with various instructional approaches, quality of present teaching, motivation and many other aspects. The fact that boys outnumber girls in incidence of learning disabilities has been linked to possible medical, maturational, sociological and brain organisation factors. As the diagnostic assessment of specific learning disabilities is a process and covers thorough assessment of a number of specific area, it is a much resource consuming one.

More recently, inclusive education is gaining wider acceptance especially in the Western countries. Inclusive education is the most feasible plan of getting across education to each child. The fundamental principle of inclusive school is that all children should learn together wherever possible, regardless of any difficulties or differences they may have. In India, some of the educational institutions in the metro cities have recently introduced the system of inclusive education. The students are facing many challenges and problems with regard to the content area of instruction and instructional environment as a whole. The individual’s physical, intellectual, emotional, cultural, social and communication needs are not been properly taken into account in the inclusive school system and hence it is intended to conduct a study on the crucial area.

1.2 Need and Significance of the Study

The domain of learning disabilities is still a grey area in India. There has been a scarcity of remedial programme for specific learning disabilities. Early identification of children with various disabilities is the most crucial step and therefore has been a major topic of discussion in the area of special education for the past few years. The early detection of any type of handicap has received wide support from the field of medicine, psychology and education and it is recognised that early diagnosis of a specific condition can lead directly to treatment.

Statistics given in the programme of action (POA) of Integrated Education for the Disabled indicates that out of 12 million disabled persons in India, 4.3 million comprise universal primary education (UPE) age group (6-14 years) and another 1.4 million fall in the age group of 0-4 years. These figures are relevant for early identification, preparation and placement. It is difficult to know exactly how many disabled are there in our regular schools at present because data vary from one survey to another. The figures available (as given in the Programme of Action
of Integrated Education for the Disabled) do not include the learning disabled children, who have specific disabilities in reading, writing and arithmetic, due to problems in psychological processes like memory and perception. Recent researches conducted on the children with specific learning disabilities show that around 10% of them have specific reading disabilities or Dyslexia. Though these children are at normal or above average level of intelligence, they are not able to read and comprehend the text, as they suffer from a neurological defect of the brain. The incidence rate of Dyslexia is more in boys than girls. The ratio is 4:1 in India and universally one in every 10 children is found to be Dyslexic. So the Investigator’s prime intention is to study the incidence of specific learning disabilities among children studying in the regular classrooms of primary schools.

In our country, remarkable progress has been made in the field of literacy, education and infant mortality. But our understanding of the significance of early identification and early intervention in the prevention of disabilities has been meager. For the same reason there has been a scarcity of tests developed in our culture, which help the professionals in early identification of disabilities. Instead of using tests in our culture, we are still making use of some of the tests developed in western countries or its adaptations. These tests undoubtedly claim a lesser validity when used, especially in areas like specific abilities, language etc. Hence, there is a need to assess specific learning disabilities using culture-fair screening tests.

The needs of children with learning disabilities are best met with early intervention, by removing barriers to learning, raising expectations and achievement levels and adopting collaborative approaches. Early intervention is the most effective form of addressing the special needs of children. Learning disabilities such as autism, Down’s syndrome, attention deficit disorder or specific learning disorders like Dyslexia, Dysgraphia and Dyscalculia can be addressed effectively with appropriate intervention measures. While education is the key to a bright future for children with special educational needs, there are many barriers. Thus all teachers should be trained to teach students with special needs and schools should support such students. The informal discussion with teachers and experts in the field convinced the Investigator that such a study may become an eye-opener.
for the teachers to recognise the increasing need for special training programmes for the differently-abled students and reorganisation of curriculum of pre-service education. Therefore a modest attempt is made to study the problems, assessment and management of dyslexics in regular classrooms and to seek the suggestions of the experts regarding the measures that can be adopted for curing Dyslexia.

According to Spache (1976), there are relatively few different treatment methods available, but still there is general disagreement on the effectiveness of each one. Most treatment methods focus heavily on phonics, visual perception training, language therapy, eye hand co-ordination training, and the use of VAKT (visual-auditory-kinesthetic-tactile) patterning to recognise words. Often programmes are heavily weighted toward decoding and word recognition skills while they place relatively little emphasis on reading or listening comprehension, developing story sense or awareness of text structures, or acquiring and using prior information. For this reason, such programmes may encourage word calling at the expense of comprehension, which does little to further the student’s effective reading ability. So, there is a need to develop a remedial programme that can cater to the needs of children with Dyslexia.

In the area of remediation of Dyslexics, no more consensus exists. Research shows that programmes utilising multisensory structured language techniques can help children and adults learn to read. Many Dyslexic children benefit from being taught more about the structure of language as part of their programme. No studies can be located that have attempted a remedial programme in these areas. It is in this context that the Investigator wishes to develop a remedial programme for the children who have Dyslexia and hence the importance of the present study. In this study, the Investigator aims to include in the remedial package, various themes concerning reading with special reference to curriculum and integrate it with listening, speaking, reading and writing activities.

Moreover, the Investigator herself has worked as a Lecturer in the university college of teacher education, Muvattupuzha for 3 years where special education is one of the elective subjects that is being offered for the B.Ed course. The Investigator has faced bitter realities of presence of dyslexic students in the classroom during the teaching practice session of the student teachers and also
noticed the presence of even adults with Dyslexia among the student teachers of the institution. Hence, the present study.

The Investigator’s interest in the field made her to undertake a study on the development of a Multimedia Package for students with Dyslexia at the upper primary level. The present study is an earnest effort to provide academic and intellectual strength to the policy makers in this regard. Hence the need and significance of the study.

1.3 Statement of the Problem

Board of examiners at various levels lament over the fall of standards of Dyslexic students in language skills. Unless they are proficient in language skills viz. listening, speaking, reading and writing, they cannot express their views effectively. Hence, it is high time that language teachers, particularly at the primary level, should make earnest efforts to develop language skills among such children. The task would become easy, if the teacher adopts a medium in this attempt. The efficiency of the computer as an aid in teaching has long been established. The effectiveness of computer assisted instruction lie in the fact that the computer is able to deliver focused instruction at a level of student need. A small amount of time is actually devoted to teach reading comprehension skills. It permits the learners to spend more time on instructional tasks. Here in this study, the Investigator want to discuss how computer can best be used as an instructional medium in teaching “reading” to upper primary school children with Dyslexia. Developing computer assisted reading programmes assumes greater significance in this context.

Since the purpose of the study is to develop a remedial reading package which incorporates the advantage of Multimedia technology for enhancing the reading attainment scores of Dyslexic students, the problem under investigation is entitled as “DEVELOPMENT OF A MULTIMEDIA PACKAGE FOR STUDENTS AT PRIMARY LEVEL WITH DYSLEXIA.”
1.4 Definition of Key Terms

Multimedia:

Multimedia is defined as the integration of two or more media elements with computing technology to convey information i.e., an integration of sound, animation, still image, hypertext and video through a computer Programme..

(Antony, 2004)

Operational Definition

Multimedia package:

By Multimedia Package here in this study, the Investigator means specially designed computer software providing video and audio material as well as text containing an organised learning system which includes an interrelated use of different media. It includes computer assisted instructional procedures beginning at the child’s level and progressing forward at the rate at which the child is able to learn. It is a combination of more than one medium that includes text, graphics, sound, animation and video. Several media range from visual literacy activities to fairly complex instructional sequences to effect specified learning outcomes with a minimum of teacher contact. It includes materials to be read, diagrams, pictures, learning activities, tasks and self-test.

Dyslexia:

“It is a developmental reading disability in children who have otherwise adequate intelligence, personality and educational opportunities”.

(Staller, 1982)

The World Federation of Neurology has defined Dyslexia as follows:

- Dyslexia is a disorder manifested by difficulty in learning to read despite conventional instruction, adequate intelligence, and socio cultural opportunity; it is dependent upon fundamental cognitive disabilities, which are frequently of constitutional origin.
- It is a disorder in children who, despite conventional classroom experience, fail to attain the language skills of reading, writing and spelling commensurate with their intellectual abilities.
1.5 Objectives of the Study

The major objectives of the study are:-

1. To identify and confirm students with Dyslexia at upper primary level from those having Specific Learning Disabilities.

2. To prepare a Reading Miscue Inventory (RMI) to find out the Reading Miscues such as Omissions, Substitutions, Reversals, Additions, Repetitions, Mispronunciations and Refusals among upper primary school students with Dyslexia.

3. To prepare and standardise a Reading Assessment Test (RAT) to find out the extent of reading disability among upper primary school students with Dyslexia.

4. To develop a Multimedia Package for minimising the Reading Miscues and thereby enhancing the reading ability of upper primary school students with Dyslexia.

5. To study the effectiveness of the Multimedia Package in minimising the Reading Miscues such as Omissions, Substitutions, Reversals, Additions, Repetitions, Mispronunciations and Refusals among upper primary school students with Dyslexia.

6. To study the effectiveness of the Multimedia package in minimising the Reading Miscues such as Omissions, Substitutions, Reversals, Additions, Repetitions, Mispronunciations and Refusals among upper primary school students with Dyslexia for various categories within the sub-samples viz. Boys/ Girls, Urban/ Rural Schools, Aided/Unaided Schools, APL/ BPL Category and Joint / Nuclear family.

7. To compare the effectiveness of the Multimedia package in minimising the Reading Miscues such as Omissions, Substitutions, Reversals, Additions, Repetitions, Mispronunciations and Refusals among upper primary school students with Dyslexia for the sub- samples based on
   a. Gender
   b. Locality
   c. Nature of School
d. Economic status  
e. Type of family

8. To study the effectiveness of the Multimedia Package for enhancing the reading attainment scores among upper primary school students with Dyslexia.

9. To study the effectiveness of the Multimedia Package for enhancing the reading attainment scores among upper primary school students with Dyslexia for various categories within the sub-samples viz. Boys/ Girls, Urban/ Rural schools, Aided/Unaided Schools, APL/ BPL category and Joint / Nuclear family.

10. To compare the effectiveness of the Multimedia Package for enhancing the reading attainment scores among upper primary school students with Dyslexia for the sub-samples based on:
   a. Gender  
b. Locality  
c. Nature of School  
d. Economic status  
e. Type of family

11. To study the effectiveness of the Multimedia Package in retaining the reading attainment scores among upper primary school students with Dyslexia.

12. To study the effectiveness of the Multimedia Package in retaining the reading attainment scores among upper primary school students with Dyslexia for various categories within the sub-samples viz. Boys/ Girls, Urban/ Rural area, Aided/Unaided Schools, APL/ BPL category and Joint / Nuclear family.

13. To gather feedback regarding the Multimedia Package from experts using Package Evaluation Proforma.

### 1.6 Hypotheses of the Study

The present study was proposed to verify the following hypotheses.

1. A considerable number of upper primary school students having Specific Learning Disabilities show symptoms of Dyslexia.
2. Reading Miscues of Dyslexic students at upper primary level is significantly minimised by the intervention of the Multimedia Package.

3. The reading attainment scores of Dyslexic students at upper primary level is enhanced by the intervention of the Multimedia Package.

4. The reading attainment scores of Dyslexic students at upper primary level is retained by the intervention of the Multimedia Package.

1.7 Scope of the Study

The present study aims at facilitating reading attainment of the upper primary school students with Dyslexia through the implementation of a Multimedia Package. The same approach can be used at other levels-lower primary and secondary- to assist the poor readers. The study will throw light on the prevalence of symptoms of learning disabilities among the students. This type of identification and remedial programmes will improve the educational backwardness of those children. The findings of the study can bring to light the ignorance of parents towards Dyslexia which in turn has much practical value in organising guidance and counselling programmes for teachers of Dyslexics. It may also provide useful information about Dyslexic children to teachers, experts, administrators and those who are concerned and interested in the education of disabled children. The results may act as an eye-opener which focuses on their misconception related to Dyslexia.

It is also hoped that a study of the present type would highlight various problems and difficulties that are likely to be experienced by teachers in accommodating learning disabled children in regular classrooms. i.e., the findings of the study would help the teachers concerned to develop a positive attitude towards Dyslexia. The findings of the study would also be useful in providing useful guidelines to academicians and administrators to the existing programme of inclusive education for the learning disabled and also to gear the training programmes to suit the requirements of integrating disabled children in general classes. This may again helps to increase awareness of this invisible handicap which needs joint attention of paediatricians, educators, counselors and psychologists of the country to develop centers for their proper assessment and accurate diagnosis.
Designing learning materials based on Multimedia Package is a highly sensitive, complicated and time consuming process; but if prepared in the pedagogically sound way, it is able to offer quickly accessible information to students of all learning abilities in an interesting way. This will help to properly structure their schemata of conceptual knowledge and allow them to become better learners as well as problem-solvers. Within the confines set by the experimental design, all possible precautions have been taken to attain the highest degree of accuracy in the findings.

1.8 Delimitations of the Study

Though possible steps were taken to make the study an objective one, certain limitations have crept into the study, the following being the major limitations identified in this context. The focus of the study has been mainly on educational aspects and diagnostic aspects and not on the medical aspects. Recognised institutions (aided and unaided) affiliated to the state syllabus in English were conducted for the study. Govt., CBSE, ICSE, Malayalam medium schools are not included. The study was restricted to children of Vth and VIth standard students only, std VII could also have been included. Inclusion of students from other districts would have been ideal. The study involves individualised instruction, testing and retesting of students’ reading attainment which need a lot of time and energy. The regular attention of the Investigator was also essential on all aspects. So for the fruitful study and giving personal attention to all samples, the study was limited to children residing in urban and rural areas of Ernakulam district in Kerala which is approachable to the Investigator. Formal assessment for sensory impairment, other handicaps etc. are not done. This is a limitation. Various extraneous variables, which have its influence on the learning ability were not considered. While acknowledging the above limitations, it is expected that the study would yield valid findings and substantial suggestions for educational improvement.

1.9 Organisation of the Report

The report of the study is presented in five chapters

Chapter-1 Introduction
This chapter consists of a general introduction highlighting the significance of education with special reference to Dyslexia. This chapter also presents the reason for selecting the problem, statement of the problem, definition of key terms, objectives of the study, hypotheses of the study and a brief discussion on the scope and limitations of the study.

**Chapter-2  Dyslexia: An Overview**

This chapter deals with the theoretical basis of specific learning disabilities and Dyslexia.

**Chapter-3  Review of Related Literature**

A brief review of the related studies as well as the scholarly works done by researchers with more proximity to the present one is included in this chapter.

**Chapter-4  Methodology**

It discusses about the methodology adopted for the study including the variables used, design of the study, selection of sample, preparation of materials and tools used for the study and the statistical procedures adopted.

**Chapter-5  Analysis and Interpretation of Data**

It deals with the analysis and interpretation of data collected during the course of the study.

**Chapter-6  Summary of Findings, Conclusions and Suggestions**

This chapter presents the summary of the procedures adopted for the study followed by conclusions, educational implications and suggestions for further research.