

## CHAPTER ONE

### INTRODUCTION

#### 1.0 Background

Dyslexia occurs in every country and is a condition which causes difficulty in reading and writing. The term 'dyslexia' is derived from the Greek word 'dys' (meaning inadequate) and 'lexis' (meaning words). Literally it means "difficulty with words" (Hornsby, 1995). Most dyslexics have normal or high intelligence but due to a flaw in their brains to process language have great difficulty reading words and sentences.

Many famous and celebrated personalities like Thomas Edison and Nelson Rockefeller were not spared this disorder and were afflicted during their childhood. Thus, their parents feared they would never learn to read. It had been reported that the speeches made by Rockefeller had to have the long words broken up into syllables and sentences broken up into segments. He could only read out the speeches after many rehearsals.

There is a growing awareness internationally about dyslexia and it is no longer a totally unknown word in Malaysia. Many policy makers and educators are aware of this specific learning disability, but there is so much more that needs to be done.

Children with dyslexia need to have a learning environment and program that are specifically catered for them. They are unable to follow the normal school curriculum due to their language and phonological deficits causing them to lag behind other normal children in school. Many parents in general are not aware that they may have a dyslexic child in their household. They assume their child to be normal like any other child only to discover their child's condition years later.

The typical feeling reported by parents of a dyslexic child is surprise; their child seemed normal initially but why isn't he learning now? This reaction actually distinguishes dyslexia from mental retardation where it is clear from the beginning that the child is slow. That feeling of surprise from parents is really based on unjustified expectations that children will be uniformed in their development. This is not the case.

Many children who, on entering the first year in school have unexpected difficulties in mastering reading and writing, are experiencing temporary lag in mental development. That initial difficulty may not necessarily be an enduring disability but it can become permanent if parents are not able to detect and understand their child, until the child becomes so discouraged that another on going problem develops.

The crystallization of the problem occurs when parents, educators and policy makers are ever too anxious to set goals and expectations that are beyond the reach of their children. Therefore, it would indeed be a real challenge for parents, educators and policy makers to understand the learning difficulties faced by dyslexic children so that they can be educated to discover their full potential.

### **1.1 Prevalence**

According to Ebro, Borstrom & Peterson,(1998) and Lyon(1995), dyslexia is a condition manifested by various difficulties with different forms of language, often in addition , including problems in reading as well as a conspicuous problem with acquiring skills in writing and spelling. It occurs despite normal intellectual ability and it is independent of socio- economic or language background. There can be a pronounced difference between individuals from being very mild to severe. It is not restricted to childhood alone but can continue throughout a person's life. The

prevalence of dyslexia is not restricted to one sex alone. Both sexes have equal chances of developing this condition.

L.Peer (2000) reported that 4% of any given population are severely affected by dyslexia, with another 6% moderately so.

In the studies and investigations of Harold N. Levinson (1980), he discovered that cerebellar-vestibular dyslexia or in other words brain coordinated functions to be 15% - 20% of a middle class population.

The World Dyslexia Network Foundation has presented statistics of the prevalence of dyslexia in various countries and they are as follows:

**Table 1.1 The Prevalence Of Dyslexia**

Country	Percentage
Nigeria	11%
Russia	10%
Finland	10%
USA	8.5%
Japan	6%
Greece	5%
Italy	1.3 – 5%
Britain	4%
Singapore	3.3%

The statistical research studies done by the Population and Housing Census of Malaysia in the year 2000 shows that, out of the 6, 285, 781 total student population in primary

and secondary schools in Malaysia, 314,000 students are dyslexic, meaning that at least 5% of the total student population or 50 per 1000 school-going children in Malaysia have dyslexic symptoms.

Though the process of identification, diagnosis, intervention and remedial is still in its infancy stage compared to other more developed countries, the Ministry of Education has however, acknowledged the existence of dyslexia in our local primary school and has taken steps to formulate training programs for teachers handling children with learning disabilities.

This has resulted in the 'Disleksia Rintis Program' in Malaysia which was implemented in March 2004. It is specially designed to help dyslexic children to learn following their needs and is currently running for the third year now. This program consists of two levels. Children in Year 1, 2 and 3 are placed in Level 1 while those in Year 4, 5 and 6 are in Level 2. These children who are the pioneers of this program had sat for their 'Ujian Pencapaian Sekolah Rendah' ( UPSR ) in the year 2007.

It is an accepted fact that not all the children under this category will overcome their learning difficulties. Some are faster in their achievements while some will take a longer period. Some of these children may even need assistance and guidance throughout their school lives.

## **1.2 Related Theories Linked To Causes of Dyslexia**

Dyslexia is perhaps a condition with a wide range of symptoms. Often pupils do not have the same cluster of symptoms.

Naidoo's ( 1979 ) findings showed that there was no single, common patterns that typify dyslexic children.

These findings have given rise to a number of theories linked to the causes of dyslexia. Some have linked dyslexia to underlying genetic causes while others dwelt on developmental and neurological issues.

### **1.2.1 Visual Perception Deficits**

The term 'word blindness' can be found in the works and findings of Dr. Pringle Morgan, Dr. James Hinshelwood , James Kerr and Orton who were well-known physicians and ophthalmologists during the nineteenth century. Their findings and experiments suggested that the reading difficulties faced by children were not due to the failure of visual power but due to the loss of memory for letters. Thus, the first theory linking dyslexia had a visual component involved and was described as a visual perception deficit. However, this theory was only relevant until the 1960s and by the 1970s this theory was under scrutiny and started losing grounds and adepts ( Fisher, Liberman, and Shankweiler, 1978 ).

### **1.2.2 Auditory Transcription Deficits**

At the end of the 1960s another researcher, Alfred Tomatis, suggested that dyslexics had difficulties in transcribing written words into phonological representations. His emphasis here was on auditory and not on language deficits.

### **1.2.3 Auditory Perception Deficits**

This theory suggested that the uncorrected hearing impairment in children can hinder normal speech and language development leading to reading deficits ( Liberman & Shankweiler, 1983 )

### **1.2.4 Cerebral Dominance**

The left hemisphere of the brain of normal children is generally more dominant for language. In a dyslexic, the brain areas involved in language are balanced between both the left and the right hemisphere. Therefore, dyslexics may need more communication between the left and the right and thus slowing down language processing.

Orton (1973 ), suggested this theory due to the instability in cerebral dominance of linguistic functions, hand or eye preference.

### **1.2.5 Speed of Information Processing**

Dyslexic readers make more mistakes than normal readers especially in tasks that require quick information processing as in auditory perception. This suggests that dyslexics may find difficulties in perceiving and processing rapid information. This might cause phonological deficits exhibited by dyslexics while reading ( Tallal, Miller, & Fitch, 1995 ).

### **1.2.6 Memory Deficits**

According to Naidoo ( 1972 ) , dyslexics may have a smaller storage capacity. This could be due to a coding deficit.

In 1976, Denkla and Rudel described dyslexics as having coding and naming deficits.

Velluntino ( 1979 ) suggested that there is a phonological coding deficit among dyslexics.

Then in 1979, Shankweiler and Liberman gave the suggestion that dyslexics' memory deficits is only for language information.

### **1.2.7 Phonological Deficits and Reading**

Theories formulated by Orton ( 1973 ) & Liberman ( 1971 ) suggested that phonological deficits in dyslexics cause reading mistakes and slowness giving rise to reading impairment. This theory has summoned many followers due to the fact that many researchers had done other studies and obtained similar results.

The point here is phonological awareness is a very important factor of reading and supports the hypothesis that early phonological deficits could cause reading difficulties later on.

### **1.3 The Rationale of the Study**

This study is done to help dyslexic children understand themselves better in their learning environment because the choice to be dyslexic is not theirs but they are born with this condition. Having this rationale in mind, educators need to give them the space and the chance to progress.

The present Malaysian School Curriculum does not cater well enough for the needs of the dyslexic individual. Children in the normal school curriculum have to complete and master a set of skills within a stipulated time frame and this does not work well with dyslexics. Instead of helping them, more difficulties are added to their disabilities and the whole situation amounts to a 'burnt out' situation. The teacher becomes frustrated and the child loses interest. More problems will surface from this major problem due to the inferiority complex that they have within themselves.

Finally, they will also be psychologically and emotionally affected.

Realizing this crisis, educators have to continually seek ways to help learning deficient children.

It is hoped that through this study we will be more sensitive and sympathetic towards children with dyslexia.

#### **1.4 The Objectives of the Study**

In this study, the causes and effects of dyslexia will be looked into. Medical professionals and researchers have presented different views on the subject of dyslexia and the underlying problem on reading. It is only prudent that further studies are carried out to ensure better achievement in reading for dyslexic children.

Some of these children have no known physical disability and their underachievement in reading does not come with a lack of potential. This study is an attempt to explore those factors that are related to the child's failure to achieve his or her potential in decoding words and reading fluency.

Further, the checklist used to differentiate a dyslexic child and a normal child will also be investigated.

The reading difficulties encountered by this group of dyslexic children will be examined so as to help them overcome their weakness and enabling them to interact actively in the community.



## **1.5 The Significance of the Study**

The success in overcoming the reading problem depends on the personal dimension of the individual dyslexic; that is the learner's attitudes confidence, interest and the will power to succeed.

It is hoped that this study will help policy makers, curriculum planners, educators, parents and those in the community to understand what dyslexia is.

It will also serve a purpose to make known to the community that dyslexia is a significant problem in the society today where help is most needed.

Hopefully in time to come, curriculum planners will take this group of learning deficient children into consideration and design learning programs that are better suited to their needs.

## **1.6 The Research Questions**

This research study will focus on the reading difficulties encountered by dyslexic children and the causes and effects of these difficulties.

The research questions that will be used to examine these factors are:-

- i) What is dyslexia and what are the causes?
  
- ii) What are the reading difficulties faced by dyslexic children?
  
- iii) How does this condition affect the reading of such children?

### **1.7 The Limitations of the Study**

This study has some limitations because the subjects and informants are from different ethnic backgrounds so the data collected may not be as consistent as intended.

Sometimes, the informants involved may not want to disclose certain realities and conditions or weaknesses related to their child for fear of being ridiculed or looked down by others. Thus, a lot of truth is concealed which may give rise to inaccuracy in the findings and interpretations. In order to reduce the probability of inaccuracy, the researcher needs to gather more information or data from the class teacher and the subjects.

English is not the main language in a vernacular school in Malaysia. Therefore, the accuracy of the data will be affected in the sense that the reading problem encountered by the subjects of study may not be the actual reading problem of a dyslexic child. It may just be a reading problem faced by any normal children in the school because English is not their mother tongue.

Due to time constraints, this study was only carried out in one school. In order to get more reliable results, it should be done more extensively in other dyslexic centres.