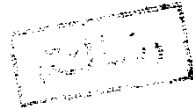


DYSLEXIA

ESSAY
SUBMITTED IN PARTIAL FULLFILMENT
FOR MASTER DEGREE IN PHONIATRIC



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INTRODUCTION

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Dyslexia refer to an inability of children of normal intelligence to acquire reading skills appropriate for their age. Such a developmental deficit occurs inspite of the usual efforts on the part of the teacher and learner (Aaron, 1982).

Descriptive labels such as "specific reading retardation" (Yule and Rutter, 1976), "specific reading disability", "developmental dyslexia" (Rabinovitch, 1968) and "unexpected reading failure" (Symnes and Rapoport, 1972) are all considered to be equivalent terms. In contrast, the term alexia is used to refer to the loss of reading ability which results from brain injury in literate individual (Aaron, 1982).

Johnson and Myklebust (1967) described two different types of reading disabilities, visual dyslexia and auditory dyslexia, on the basis of their clinical experience. Visual dyslexics were said to have difficulty in percieving, remembering, and producing complex visual patterns and visual sequences, whereas auditory dyslexics had difficulty in analyzing spoken words into their constituents and synthesizing new words from syllables and speech sounds.

It is well accepted that dyslexic's brain cells are arranged differently from those who have no difficulty with reading or writing, and that this unusual structures of cells affects to varying degree the normal functioning of one area or another in the brain. The root of the problem is considered to be an ineffecient connection between the left and right halves of the brain and that tendency to dyslexia is largely inherited. Dyslexia may be caused also by changes in the brain resulting from illness or accident, before, during or just after birth. Whether hereditary or not, the extent of the difference in the brain cells arrangement determines whether some one's dyslexia is mild moderate or sever (Hornsby ,1984).

Reading problems in non-retarded children are now acknowledged world wide and they have arowsed great interest and activity among both parents and professionals in a detormentation to help these children. There are some specialized reading systems that have been devised which utilize sensory modality training in the learning process. The Orton-Gillingham Remediation Technique, the Fernald Technique and the Neurological Impress Method are among the well known systems which are used for training the dyslexic children. The utility of any of these methods

is predicated on the careful matching of the pupil with the technique. The child's modality strengthens and weaknesses, and his or her motivation and interests must all be taken into account (Dorothy and Dorothy, 1982). The remedial techniques used for teaching dyslexic children may be assisted by a number of computer-assisted instruction programs which have been designed to teach various aspects of reading. Very detailed programs for teaching letter identification spelling patterns, phonics, word comprehension and sentence comprehension are designed. The drill-and-practice approach of computer assisted instruction seemed uniquely suited to bringing about the rapid, automatic reading skills needed for fluent reading, and would seem particularly appropriate for hard-to-teach children with reading disabilities (Doerhring et al., 1981).

AIM OF THE WORK

Study of the condition of developmental dyslexia in order to outline the causes and the different methods of evaluation, preparatory to the recommendation of a feasible plan of intervention.

THE READING PROCESS

THE READING PROCESS

Aaron (1982) stated that the reading of connected prose consists of two stages: encoding and comprehension. The encoding stage is further assumed to have two components, namely the simultaneous processing of a word and the sequential processing of certain units within a word or a sentence. The second stage in reading involves the construction of ideas, which is accomplished by combining units of information made available by the process of encoding. The term comprehension is used to denote this process. The reader's linguistic competence, knowledge of syntax and semantics, and stocks of concepts all play a role in comprehension. In this sense, it is very similar to "sentence meaning" which is described by Caramazza and Brendt (1978) in the following manner: "lexical meaning can be considered to have fixed representation, constructed by combining the meanings of single lexical items".

As noted earlier, the encoding operation has two components, one involving the simultaneous process, the other the sequential process. The simultaneous process is the processing of salient features within a word, resulting in a direct conversion of the visual form of the word. The sequential operation, on the other hand,

involves a conversion of letters into their corresponding phonetic equivalents (Aaron, 1982). Some dyslexic patients may depend mainly on sequential operation, as may skilled readers encounter new or difficult words (Baddeley, 1979).

Aaron (1982) stated that in the skilled reader the sequential operation most likely involves the serial processing of words or other functional linguistic units within a sentence as a rehearsal strategy in the short memory stage. Such a sequential operation is necessary to maintain the syntactic order of words within a sentence and is, therefore, aided by the reader's syntactic and linguistic competency. In the skilled reader, these two operations - simultaneous and sequential processing of information - might appear to be fused and inseparable, but in fact, they are carried out simultaneously but independently. This statement could be evidenced from the reading errors committed by disabled readers, both dyslexic and alexic. The possibility that these errors could be dichotomized indicates that one or the other process is underutilized by these readers for instance, several reports describe certain alexic symptoms that imply a breakdown of the sequential process in reading (Patterson, 1978; Coltheart, 1980; Marcel, 1980). Patients displaying such symptoms could read concrete nouns but could not

read aloud nonsense words, and they encountered greater difficulty in reading abstract nouns and function words than in reading concrete nouns. The errors committed by these patients bear little or no phonological resemblance to the printed words. A second group of patients does not make such semantic errors, but fails to recognize words readily and seems to depend more on the phonetic aspects of words than on its meaning (Marshall and Newcombe, 1973). Those observations have lead investigators to propose that two pathways are involved in reading a grapheme-phoneme route and a direct grapheme-lexical route (Sasanuma, 1980).

DYSLEXIA
DEFINITIONS
AND
CLASSIFICATIONS

DYSLEXIA

DEFINITIONS AND CLASSIFICATIONS

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Descriptive labels such as "specific reading retardation" (Yule and Rutter, 1976), "specific reading disability", "developmental dyslexia" (Rabinovitch, 1968) and "unexpected reading failure" (Symmes and Rapoport, 1972) are all considered to be equivalent terms. In contrast, the term alexia is used to refer to the loss of reading ability which results from brain injury in literate individual (Aaron, 1982).

Perhaps the typical descriptive definition of dyslexia is given by Hermann (1959). He defined dyslexia as - a defective capacity for acquiring, at normal time, a proficiency in reading and writing corresponding to average performance; the deficiency is dependent on constitutional factor (hereditary); is often accompanied by difficulties with other symbols (numbers, musical notation, etc.); it exists in the absence of intellectual defects