UNIVERSITI TEKNOLOGI MARA

EEG SIGNAL ANALYSIS OF DYSLEXIC CHILDREN WITH WRITING DISBILITY USING WAVELET PACKET DECOMPOSITION

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ABSTRACT

In order to be a successful professionally or personally, we need to have to have a good communication skills in addition of reading and writing capabilities. However, the increment of dyslexic among our population demands our researcher to study the cause of the dyslexia and to design the educational plan in order to motivate the dyslexic facing their disabilities. Due to the technical limitation and current educational treatment period, the computerized treatment is an option to be developed by the researcher. Recently, many preliminary studies have been done to support in this computerized treatment development. In this research, the EEG signal of dyslexic children with writing disabilities has been analyzed by using the Wavelet Packet Decomposition.

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CHAPTER 1

1   INTRODUCTION

1.1   INTRODUCTION

The introduction section described the background, problem statement of this research, the objective and not forgotten, scope and limitation of research. Thesis organization explains the content of this thesis.

1.2   BACKGROUND

In the world when the career successfulness is important key of life, it is a challenge when she or he born with dyslexia. This language processing disorder can obstruct the fluent of reading, writing, spelling, and speaking. The intelligence or the laziness is not the main factor of dyslexia. It is also not the result from human vision processing center. Children and adults with dyslexia might have a neurological disorder which causes the information is interpreted and processed differently in their brains. Dyslexia can affect people uniquely. This depends on the severity of the learning disability and the successfulness of multiple learning methods. Some with dyslexia may have trouble with reading and spelling, while others face the problem to write. Some children with dyslexia show few signs of difficulty with early reading and writing. But in future, they may have trouble with complexity of the language grammar, reading comprehension and more critical in writing.

Generally, dyslexia is a neurological symptom known as inability to acquire reading and spelling skills from the human brain corresponding with the children intelligence, motivation and education system considered necessary for accurate and fluent reading[1]. From the study, it was estimated that 20% of worldwide population effected by dyslexia where 17% among them are primary school children [2]. The International Dyslexia Association has defined dyslexia as a disorder characterized by difficulties with accurate word recognition and by poor spelling.

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