

UNIVERSITI TEKNOLOGI MARA

**READING SPEED AND EYE MOVEMENT
PATTERN IN ARTIFICIAL
PERIPHERAL SCOTOMA
STIMULATIONS**

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requirements for the

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AUTHOR'S DECLARATION

I declare that the work in this dissertation was carried out in accordance with the regulations of Universiti Teknologi MARA. It is original and the results of my own effort, otherwise previous study that acknowledged as referenced work. This topic has not been submitted to any other academic institution or non-academic institution for any degree or qualification.

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ABSTRACT

READING SPEED AND EYE MOVEMENT PATTERN IN ARTIFICIAL PERIPHERAL SCOTOMA STIMULATIONS.

Introduction: Reading is one of a daily routine activity that can be affected with some extent of peripheral vision defect. Reading activity become difficult with the patient that having peripheral visual field loss. The effect of reading speed and eye movements was investigated its effect with different level of stimulations peripheral visual field defect.

Materials & methods: Ten normally sighted participants was participated in this study (Mean age=23). The reading speed and the eye movement was measured during reading the Malay passages in normal condition and 4 stimulations with artificial peripheral scotoma by using three-dimensional video-oculography (3D-VOG).

Results: There was no significant difference between reading speed and eye movements with artificial peripheral scotoma. The mean reading speed for normal condition, stimulation 1, stimulation 2, stimulation 3, and stimulation 4 was 130.48 ± 20.47 wpm, 122.28 ± 11.17 wpm, 124.20 ± 21.37 wpm, 124.28 ± 17.72 wpm, 110.84 ± 23.06 wpm, respectively. The fourth stage of stimulation i.e the largest artificial peripheral scotoma showed the slowest reading speed while the fastest reading speed was from the normal reading condition. While for the eye movements' outcome, the highest number of fixation was obtained from the normal condition and stimulation 2 showed the lowest number of fixation. On the other hand, the highest number of regression was from the stimulation 2.

Conclusions: The outcome was found that the stimulations of peripheral visual field do not affect the reading speed, number of fixation and number of regression statistically. However, the reading speed was reduced as the stimulation of peripheral scotoma became worsen. The outcome was not significant might be caused by a small number of participants.

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