

UNIVERSITI TEKNOLOGI MARA

WEB-BASED DYSCALCULIA PRE-SCREENING TOOL

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STUDENT DECLARATION

I certify that this report and the research to which it refers are the product of my own work and that any ideas or quotation from the work of other people, published or otherwise are fully acknowledged in accordance with the standard referring practices of the discipline.

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ABSTRACT

The aim for this research is to design and develop a web-based dyscalculia pre-screening tool that could perform dyscalculia pre-screening for children aged 5 to 8. ADDIE Model has been utilized as the methodology of this study. The ADDIE Model consists of five phases including analysis, design, development, implementation, and evaluation. Mayer's principle has been utilized as a guideline in designing this system. Few principles from Mayer's principle was adapted during the design which are multimedia principles, spatial contiguity principle, and personalization principles. Functionality test and user experience test were conducted during the study to evaluate the system. Functionality Testing was conducted to verify that all modules in the system function effectively and efficiently. The result from the UX Testing indicates that most of the users agree that the system is useful, effective, interesting for children, and reliable. It is hoped that, by using this system, the parents and teachers would be able to perform early screening and detect whether their children are having difficulties in performing simple mathematical functions as early as possible.

Keywords: *Mayer's Principles, ADDIE Model.*

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