UNIVERSITI TEKNOLOGI MARA

A MOBILE LEARNING APPLICATION FOR DOWN SYNDROME CHILDREN IN LEARNING BASIC READING SKILL

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ABSTRACT

Available reading materials nowadays are not suitable for individual with limited learning disabilities. Recently, there are few mobile applications which focus on teaching Down Syndrome children to read at early stage available despite the number of mobile learning applications are growing rapidly. Besides that, Down Syndrome children are capable to learn to read if the teaching and learning methods are suitable based on their strength in visual learning. This study involves three main objectives: i) to investigate the learning strategy and learning style of Down Syndrome children in early reading stage; ii) to develop early reading learning application based on mobile application, content design, interface, teaching and learning methods. This mobile application is called Baca_SinD; iii) to validate the early learning application mobile application based on effectiveness, usability, and user behaviour. The Baca_SinD prototype was developed based on the development methodology which focusing on basic reading for Down Syndrome learners. This development methodology model is composed of five (5) phases: Analysis, Design, Development, Implementation and Evaluation. The Evaluation phase involved formative and summative assessment. The formative assessment process involved experts' feedback on the Baca_SinD prototype. Then, the summative assessment involved a usability testing on the Baca_SindD mobile application, conducted on 11 Down Syndrome children from a special education school in Selangor. The usability testing on the Baca_SindD prototype was conducted based on constructs involving interaction and user interface aspects such as: effectiveness, learnability on the application and learner positive behaviour on the application while they were using the application. The research instruments used were: questionnaires on Baca_SindD prototype usability. Findings of the study shows positive outcome of the mobile learning application approach that focusing on basic reading skills for Down Syndrome children. Contributions of the study are: an instructional design as guideline for the development of the mobile application on sight word reading for Down Syndrome children and as reference for future research related to Down Syndrome children and other children with disabilities.

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