

Design guidelines of tangible interaction learning model for children with dyslexia

ABSTRACT

Children with dyslexia are synonymous with having difficulties in learning to read. Dyslexic children commonly encounter visual, auditory and kinesthetic deficits which cause an inability to process the information in their brain despite no visual, hearing and motor impairments. The current teaching approach used is through traditional instruction such as books, flashcards, boards and many more. However, children with dyslexia require a multisensory approach which allows them to utilize all their senses, be it eyes, ears, voice, and tactile, in learning. Tangible interaction has gained a reputation as an alternative approach to bring richness and intuitiveness of a multimodal using physical tangible objects while interacting with a digital space. In order to provide the appropriate tools for dyslexic children in learning, design guidelines of tangible interaction learning model are established and supported by theories and other related works in the dyslexia domain. In regards to the design guidelines, an initial tangible interaction prototype called Disleksia Belajar 3dT is going to be developed for children with dyslexia. The prototype may serve as an interactive and supportive tool for dyslexic children to learn Malay language.

Keyword: Design guidelines; Tangible interaction; Dyslexia children