

Pre-School Children With Speech Delay: Case Control Study Based on Guidelines for Game Designs

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Abstract: The development of an effective mobile game-based application specially for children with speech delay is highly dependent upon its design and the speech or language development of the users. Various design principles used for adult interfaces cannot be applied to children's products because the abilities, needs, skills and expectations of the user are different than the adults. Although there are numerous studies have been conducted on designing games for children, studies on specific design guidelines for children with speech delay has yet to be comprehensively studied. Therefore, this study focuses on the set of design guidelines for the development of mobile game-based applications for children with speech delay in Malaysia. Using a case-control design, data on 10 pre-school children with speech delay and 20 pre-school children without speech delay were collected using a rubric questionnaire which was developed based on the existing design guidelines mainly for young children. Children's behaviours, facial expressions and responses were observed during the evaluation session. Based on the results, the two groups of children show different expression and responses towards the interface designs of mobile-based game application. The findings suggest that not every of the existing design guidelines for children's interface may be applied into the design guidelines for children with speech delay. Appropriate design guidelines were extracted and derived through the results from the conducted experiment. These guidelines would be useful for researchers and game designers or developers when designing games specially for children with speech delay.

Keywords: design guidelines, mobile game-based, preschool children, speech delay
