A New Approach in Educational Activities with Augmented Reality (Ar) For Special Needs Children in Malaysia

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Abstract

A UNICEF study in 2019 indicated that there are about 440000 children with special needs including social and cognitive impairment. Caring for children with special needs such as autism spectrum disorder, attention deficit hyperactive disorder is more challenging for caregivers especially during pandemic COVID-19. Lacking provision of appropriate intervention teaching approaches is one of the challenges in special education. The most popular approach in Malaysia is PECS (Picture Exchange Communication System) method; however, PECS does not allow for social communication independence. Based on critical review using the keywords "augmented reality" and "special need children", there were only two studies conducted by far, and none of them were in Malaysia context. Therefore, this research focuses on proposing a new approach in educational activities on social and cognitive development using Augmented Reality (AR). AR is a display technology that demonstrates and improves the potential ability of special needs children in completing tasks compared to the use of traditional paper-based method. Hence, the objectives are to identify and assess the current practice of educational activities, to develop and integrate a new approach and to evaluate the effectiveness of the new approach with Augmented Reality (AR). This research adopts mixed-methods combining qualitative and quantitative. A case study design involving four zones, using interview techniques of FGD with 10 respondents and 321 respondents for evaluating new approach using AR. The findings of this study are the development of a new approach combination of PECS and TEACHH methods. This approach is effective for special need children using AR as they are gifted with visual skill especially in technology in the IR4.0. The impact of this study is relevant to support and improve Malaysia's Disability Act and fulfill the Ministry of Education Zero Reject Policy as formal education should be made available for people with disabilities.

Keywords: new approach, educational activities, augmented reality, special needs children