Augmented Reality for Children Vocabulary Learning: Case Study in a Macau Kindergarten

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Abstract : Augmented Reality (AR), with the affordance of bridging between real world and virtual world, brings users immersive experience. It has been applied in education gradually and even come into practice in student daily learning. However, a systematic review shows that there are limited researches in the area of vocabulary acquisition in early childhood education. Since kindergarten is a key stage where children acquire language and AR as an emerging and potential technology to support the vocabulary acquisition, this study aims to explore its value in in real classroom with teacher's view. Participants were a class of 5 to 6 years old kids studying in a Macau school that follows Cambridge curriculum and emphasizes multicultural ethos. There were 11 boys, 13 girls, and in a total of 24 kids. They learnt animal vocabulary using mobile device and AR flashcards, IPad to scan AR flashcards and interact with pop-up virtual objects. In order to estimate the effectiveness of using Augmented Reality, children attended vocabulary pre-posttest. In addition, teacher interview was administrated after this learning activity to seek practitioner's opinion towards this technology. For data analysis, paired samples t-test was utilized to measure the instructional effect based on the pre-posttest data. Result shows that Augmented Reality could significantly enhance children vocabulary learning with large effect size. Teachers indicated that children enjoyed the AR learning activity but clear instruction is needed. Suggestions for the future implementation of vocabulary acquisition using AR are suggested.

Keywords : augmented reality, kindergarten children, vocabulary learning, Macau
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