ABSTRACT

Augmented Reality (AR) opens new opportunities to create more interactive and engaging learning media for young children. This research aims to implement and develop an AR-based educational application for introducing transportation that can serve as a supporting learning medium for young children. The application was developed using the Game Development Life Cycle (GDLC) method, which consists of six stages: initiation, pre-production, production, alpha testing, beta testing, and release. The application's development utilizes the Unity3D game engine and the Vuforia SDK to implement AR functionality on the Android platform. The results from the beta testing phase, involving early childhood and adult respondents, show that the application was successfully developed and well-received. Adult respondents provided positive feedback. The test results also show that they could easily learn about transportation using this application. However, there was a different level of comprehension on the quiz feature, where the average comprehension in the non-AR quiz was higher than in the AR-based quiz. This indicates that the application is effective as a learning medium, but further analysis is needed to evaluate the factors influencing the differences in the quiz results.

Keyword : Augmented Reality, Game Development Life Cycle, Unity3D, Transportation, Android, Pre-School Playgroup