ABSTRACT

DESIGN OF INTERACTIVE LEARNING MEDIA FOR DIGESTIVE SYSTEM SUBJECTS BASED ON AUGMENTED REALITY USING THE MDLC METHOD

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This research focused on the development of interactive learning media based on Augmented Reality (AR) markerless for Digestive System subjects at SMP Muhammadiyah Sumbang, Banyumas, Central Java. The main objective is to overcome the limitations of conventional learning methods and improve students' understanding in natural science lessons, especially the digestive system. This research implements the Multimedia Development Life Cycle (MDLC) method, which includes the stages of conceptualizing, designing, collecting materials, making, Testing, and distributing. The results show that the development of AR learning media is successful, with applications built for the Android platform and available on the Play Store. The main features of this application include pre-test, material, AR scan, and post-test. Black Box Testing revealed a very feasible application functionality with a score of 97.05%, although some shortcomings were found that can be improved in future research. System Usability Scale (SUS) Testing resulted in a score of 78.75, indicating a "Good" level of usability and acceptance by users. Furthermore, the T-test showed a significant increase in student understanding, with an average score increase of 28.30% after using this interactive learning media. From this study, it can be concluded that AR-based interactive learning media can be an effective solution in improving the quality of the teaching and learning process, especially for materials that require high visualization such as the human digestive system.

Keywords: Augmented reality, Interactive Learning Media, Multimedia Development Life Cycle, Digestive System, System Usability Scale