

Developing augmented reality flashcards for English vocabulary instruction in Indonesian early childhood education: An ADDIE model feasibility study

ABSTRACT - This study was motivated by persistent challenges in early childhood English vocabulary acquisition, wherein conventional pedagogical tools remain widely used and frequently result in suboptimal learning outcomes. A preliminary problem analysis revealed that limited media diversity and minimal integration of digital technologies contribute to low learner engagement. A subsequent needs assessment further underscored the demand for visual, interactive learning media tailored to the developmental characteristics of early childhood learners. Market analysis indicated a notable scarcity of Augmented Reality (AR)-based flashcard media specifically designed for English vocabulary instruction at the early childhood education level. In response to these identified gaps, this research aimed to develop and evaluate the feasibility of AR-based flashcard learning media for early childhood English vocabulary acquisition. Employing a Research and Development (R&D) methodology structured around the ADDIE model, the study involved 16 children from Group TK B at a PAUD in Nagan Raya. Evaluation results demonstrated high feasibility, with validation scores from media experts (97.5%) and material experts (100%) exceeding the positive response rates from children, which ranged from 91.7% to 100%. All measured metrics fell within the "very feasible" category. Implementation challenges included unstable internet connectivity, prolonged AR scanning durations, and a shortage of supporting devices. Notwithstanding these limitations, the findings conclude that Augmented Reality-based flashcards constitute a highly viable and effective medium for introducing English vocabulary to young learners.

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