

**PENGEMBANGAN MEDIA INTERAKTIF DIORAMA BERBASIS
AUGMENTED REALITY MATERI EKOSISTEM UNTUK
MENINGKATKAN LITERASI LINGKUNGAN SISWA KELAS 5 SD**

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ABSTRAK

Disparitas nyata antara pemahaman teoretis mengenai ekosistem dan nihilnya keterlibatan praksis dari siswa—akibat metode pedagogi yang statis—menjadi indikator rendahnya literasi ekologis di tingkat sekolah dasar. Di tengah kemelut lingkungan mondial, hal ini merupakan isu yang mendesak. Sebagai langkah solutif, sebuah peranti pembelajaran interaktif berupa diorama berekstensi *Augmented Reality* (AR) dikembangkan melalui studi ini. Orientasinya adalah mengeskalasi literasi lingkungan pada siswa kelas V SD, sekaligus menginvestigasi tingkat kesahihan, kepraktisan, dan kemangkusan media tersebut. Riset ini mengadopsi ancangan Penelitian dan Pengembangan (R&D) yang bersendikan pada kerangka kerja ADDIE. Sebagai pijakan teoretis, proses rancang bangun tersebut berakar pada asas konstruktivisme. Wahana instruksional interaktif berupa diorama berteknologi *Augmented Reality* (AR) pada cakupan ekosistem ditetapkan sebagai objek telaah dalam studi ini. Saat memasuki tahapan eksekusi, skema *one group pretest-posttest* diberdayakan sebagai desain riset. Evaluasi terhadap produk tersebut merangkul sejumlah subjek, yang secara terperinci melibatkan dua validator peranti, dua validator substansi, dua orang guru, beserta 18 murid kelas V SD Negeri Katung yang bertindak selaku responden penguji. Penjaringan data via kuesioner dan tes literasi ekologis ditelaah secara deskriptif kuantitatif dan uji *paired sample t-test* pascapemenuhan prasyarat. Temuan empiris mengafirmasi bahwa diorama AR ini menggenapi kesahihan prima merujuk justifikasi pakar, serta merengkuh keterpakaian unggul dari pendidik dan peserta didik. Selain memicu eskalasi literasi ekologis yang substansial pascaintervensi, inovasi imersif ini mumpuni menyemai afeksi peduli alam, memantik partisipasi, dan memperdalam komprehensi ekosistem. Konsekuensi logisnya, diorama AR potensial direkognisi sebagai pembaruan pedagogis IPAS guna menyokong literasi lingkungan di jenjang pendidikan dasar.

Kata Kunci: *Augmented Reality, Ekosistem, IPAS, Kurikulum Merdeka, Literasi Lingkungan*

**DEVELOPMENT OF AN AUGMENTED REALITY-BASED INTERACTIVE
DIORAMA LEARNING MEDIA ON ECOSYSTEM MATERIALS TO
ENHANCE THE ENVIRONMENTAL LITERACY OF FIFTH-GRADE
ELEMENTARY SCHOOL STUDENTS**

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ABSTRACT

*The stark disparity between theoretical understanding of ecosystems and the lack of practical student engagement—stemming from static pedagogical methods—indicates low ecological literacy at the primary school level. Amidst the global environmental crisis, this is a pressing issue. To address this, this study developed an interactive learning tool in the form of an Augmented Reality (AR)-enhanced diorama. The initiative aimed to boost environmental literacy among fifth-grade students while evaluating the medium's validity, practicality, and effectiveness. The research employed a Research and Development (R&D) approach based on the ADDIE framework, with the design process grounded in constructivist principles. An interactive AR-enabled diorama focusing on ecosystems served as the study's subject. During the implementation phase, a one-group pretest-posttest design was utilized. Product evaluation involved various subjects: two tool validators, two content validators, two teachers, and 18 fifth-grade students from SD Negeri Katung acting as test respondents. Data collected via questionnaires and ecological literacy tests were analyzed using descriptive quantitative methods and paired-sample *t*-tests, following the fulfillment of necessary prerequisites. Empirical findings confirm that the AR diorama achieved excellent validity according to expert assessments and demonstrated high usability for both educators and students. Beyond significantly boosting ecological literacy post-intervention, this immersive innovation effectively fostered an attitude of environmental care, encouraged participation, and deepened ecosystem comprehension. Consequently, the AR diorama holds potential as a pedagogical innovation in the IPAS (Natural and Social Sciences) curriculum to support environmental literacy at the primary education level.*

Keywords: Augmented Reality, Ecosystem, Environmental Literacy, IPAS, Merdeka Curriculum