IJORER : International Journal of Recent Educational Research
Homepage : https://journal.ia-education.com/index.php/ijorer
Email : ijorer@ia-education.com

p-ISSN : 2721-852X ; e-ISSN : 2721-7965
IJORER, Vol. 5, No. 3, May 2024
Page 780-796

Ecoliteracy Learning Design with Augmented Reality-Based SETS Approach for Flood Disaster Education

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DOI : https://doi.org/10.46245/ijorer.v5i3.610

Sections Info

Article history:
Submitted: May 22, 2024
Final Revised: June 8, 2024
Accepted: June 9, 2024
Published: June 15, 2024

Keywords:
Augmented Reality;
Ecoliteracy;
Flood Disaster Education;
SETS Approach.

ABSTRACT

Objective: : Environmental damage is strongly related to the threat of flood disasters. To reduce the impact of the risk, environmental care behavior and flood disaster education are needed in formal education. The purpose of this study is to apply Ecoliteracy learning design with an Augmented Reality-based SETS approach to increase students' knowledge about environmental care and efforts to reduce the impact of flood risk. **Method:** This study uses a mixed method of concurrent embedded design; the trial was carried out in one Class XI specialization in geography at State high school 1 Sayung. The research syntax uses the SETS (Science Environment Technology Society) approach with Augmented Reality Ecoliteracy Application media. **Results:** The results showed that AR Ecoliteracy media has an assessment score percentage of 90.46% with very good criteria, the SETS learning process with AR Ecoliteracy media can make students more interested in learning the material, but in the realm of science still needs support from teachers. The results of the Pre-Test and Post-Test paired sample tests obtained a value of Sig.<0.05. This means that this research design is effective in increasing students' knowledge, caring for the environment and efforts to reduce the impact of flood risk. **Novelty:** The use of augmented reality media is needed in education, especially with Generation Z. Research using the SETS approach in geography maple has yet to be conducted, so it can be the first step in developing this design.

INTRODUCTION

Environmental damage from human life behaviour can trigger a domino effect in various lifelines. The incompatibility of biotic and abiotic ecological management is a threat of disasters influenced by unbalanced natural factors (Nurhattati et al., 2019). The most significant complication of unfriendliness in environmental management can cause disasters, one of which is flooding. Flood disasters are usually influenced by several factors, namely meteorology, climatology, pollution, global warming, land conversion, river damage, and people's lifestyle patterns that are not based on the environment (Suhendar et al., 2023). The lack of attention to managing the environment and flood disasters both affect each other. Attention and seriousness in handling every complexity of environmental problems is the shared responsibility of all humans (Ikhsan et al., 2019).

Environmental and disaster education has been included in the Merdeka curriculum in the form of materials that include geography subjects and projects to strengthen the profile of Pancasila students (P5). The application form is adjusted to the needs of disaster mitigation knowledge, including geographical conditions and threats lurking in the surrounding environment (Kurniawan et al., 2024). In low-lying areas such as Demak Regency, there is a severe threat in the form of flood disasters. Knowledge of flood disaster education in the school environment is not just a theory, there needs to be

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