

ABSTRAK

ITA MINARTI. 222170124. **PERANCANGAN APLIKASI TERALENS BERBASIS ANDROID SEBAGAI MEDIA PEMBELAJARAN INTERAKTIF UNTUK MENINGKATKAN HASIL BELAJAR KOGNITIF (Studi pada Materi Mitigasi Bencana Alam Kelas XI di SMA Negeri 1 Ciawigebang Kabupaten Kuningan)**. Jurusan Pendidikan Geografi, Fakultas Keguruan dan Ilmu Pendidikan, Universitas Siliwangi, Tasikmalaya.

Penelitian ini dilatar belakangi oleh rendahnya hasil belajar kognitif peserta didik pada mata pelajaran Geografi di SMA Negeri 1 Ciawigebang, di mana hanya sekitar 20% peserta didik kelas XI IPS yang mampu mencapai KKM. Pembelajaran yang masih didominasi metode konvensional serta keterbatasan media yang mampu memvisualisasikan fenomena bencana alam secara konkret dipandang perlu diinovasi melalui pengembangan media pembelajaran berbasis teknologi yang interaktif dan bermakna. Tujuan penelitian ini adalah untuk mengetahui tahapan perancangan aplikasi Teralens berbasis Android sebagai media pembelajaran interaktif pada materi mitigasi bencana alam kelas XI di SMA Negeri 1 Ciawigebang serta untuk mengetahui pengaruh penggunaan aplikasi Teralens berbasis Android terhadap peningkatan hasil belajar kognitif peserta didik. Metode penelitian yang digunakan adalah kuantitatif dengan model pengembangan ADDIE yang terdiri atas lima tahapan, yaitu *Analysis*, *Design*, *Development*, *Implementation*, dan *Evaluation*. Pengambilan sampel terdiri dari dua kelas, yaitu kelas XI IPS 2 sebagai kelas eksperimen dengan 39 peserta didik yang menggunakan aplikasi Teralens, dan kelas kontrol dengan 39 peserta didik yang menggunakan pembelajaran konvensional. Teknik pengumpulan data berupa observasi, wawancara, angket, tes, dan dokumentasi. Teknik analisis data meliputi uji normalitas, uji homogenitas, uji Mann-Whitney, dan uji N-Gain. Berdasarkan hasil penelitian, diperoleh dua simpulan utama yang menjawab rumusan masalah. Pertama, perancangan aplikasi Teralens melalui tahapan ADDIE menghasilkan media pembelajaran yang sangat layak, dengan skor validasi ahli media sebesar 97,14%, ahli materi sebesar 99%, penilaian guru sebesar 100%, dan penilaian peserta didik sebesar 83%. Kedua, terkait pengujian hipotesis pengaruh penggunaan aplikasi Teralens, hasil uji Mann-Whitney memperoleh nilai *Asymp. Sig. (2-tailed)* sebesar $0,025 < 0,05$, sehingga H_0 ditolak dan H_a diterima. Hasil uji N-Gain menunjukkan nilai rata-rata gain kelas eksperimen sebesar 0,57 lebih tinggi dibandingkan kelas kontrol sebesar 0,41. Kesimpulannya, aplikasi Teralens berbasis Android terbukti memberikan pengaruh terhadap peningkatan hasil belajar kognitif peserta didik pada materi mitigasi bencana alam kelas XI di SMA Negeri 1 Ciawigebang.

Kata Kunci: Aplikasi Teralens, *Augmented Reality*, Media Pembelajaran Interaktif, Hasil Belajar Kognitif, Mitigasi Bencana Alam

ABSTRACT

ITA MINARTI. 222170124. ***DESIGNING THE TERALENS ANDROID-BASED APPLICATION AS AN INTERACTIVE LEARNING MEDIA TO IMPROVE COGNITIVE LEARNING OUTCOMES (A Study on Natural Disaster Mitigation Material for Grade XI at SMA Negeri 1 Ciawigebang, Kuningan Regency).***
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This research is motivated by the low cognitive learning outcomes of students in the Geography subject at SMA Negeri 1 Ciawigebang, where only around 20% of Grade XI IPS students were able to achieve the minimum passing grade (KKM). Learning that is still dominated by conventional methods and the lack of media capable of concretely visualizing natural disaster phenomena are considered in need of innovation through the development of interactive and meaningful technology-based learning media. The purpose of this study is to determine the design stages of the Teralens Android-based application as an interactive learning media on natural disaster mitigation material for Grade XI at SMA Negeri 1 Ciawigebang, as well as to determine the effect of using the Teralens Android-based application on improving students' cognitive learning outcomes. The research method used is quantitative with the ADDIE development model consisting of five stages, namely Analysis, Design, Development, Implementation, and Evaluation. The sample consisted of two classes, namely class XI IPS 2 as the experimental class with 39 students using the Teralens application, and the control class with 39 students using conventional learning. Data collection techniques included observation, interviews, questionnaires, tests, and documentation. Data analysis techniques included normality tests, homogeneity tests, Mann-Whitney test, and N-Gain test. Based on the research results, two main conclusions were obtained that answer the research questions. First, the design of the Teralens application through the ADDIE stages produced a highly feasible learning media, with media expert validation scores of 97.14%, content expert validation of 99%, teacher assessment of 100%, and student assessment of 83%. Second, regarding the hypothesis testing of the effect of using the Teralens application, the Mann-Whitney test obtained an Asymp. Sig. (2-tailed) value of $0.025 < 0.05$, so H_0 was rejected and H_a was accepted. The N-Gain test results showed that the average gain score of the experimental class was 0.57, which is higher than the control class at 0.41. In conclusion, the Teralens Android-based application has been proven to have an effect on improving students' cognitive learning outcomes on natural disaster mitigation material for Grade XI at SMA Negeri 1 Ciawigebang.

Keywords: Teralens Application, Augmented Reality, Interactive Learning Media, Cognitive Learning Outcomes, Natural Disaster Mitigation