Design and Analysis of the Effect of Indonesian Geographic Education System Based on Augmented Reality Technology on Students

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Abstract. The problem in this research is that there is no Augmented Reality (AR)-based learning media at SD Inpres Hombes Armed, Kab. Gowa. So this study aims to design and analyze the influence of the Indonesian Geographical Education System in improving the quality of the teaching and learning process for students in schools. This study uses AR technology with Marker Based Tracking media in making 5 largest island markers in Indonesia, namely Sumatra, Java, Kalimantan, Sulawesi, and Papuan islands. The data analysis used the method of observation, interviews, questionnaires and questions pre and post-test in beta testing applications to 10 students in grade IV (four). The results obtained are the application successfully displays island objects in 3D and displays legends as astronomical and geographical information for each island. The best marker detection results are at an average distance of 14.7 cm with an angle of 0 degree to 15 degrees within 0.5 seconds. Then the students' ability to answer quiz questions about the Geographical Map of Indonesia has increased significantly, from 48% accuracy to 61%. Then 100% of students stated that the application had an attractive interface and presentation of material and agreed that this application was feasible to use and could be an alternative learning medium other than printed books.

Keyword: augmented reality, map, geography, students