

DEVELOPMENT OF AUGMENTED REALITY ASSISTED ETNO-TPACK MODEL TO IMPROVE SCIENCE LITERACY AND PEDAGOGIC COMPETENCY OF MIDDLE SCIENCE TEACHERS OF JUNIOR HIGH SCHOOL

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ABSTRACT

Teachers cannot directly utilize information and communication technology (ICT) tools and e-learning platforms to support distance learning. Teachers need additional knowledge that can be used to enrich learning strategies based on the needs of environmental conditions and situations. In addition, teachers need to keep abreast of technological developments, which also have an impact on technological advances in learning materials. According to Richey and Klein, this type of research uses a learning product development approach. The research design presents a Design, Development, Research (DDR) diagram that is guided by the ADDIE development model. The analysis used to analyze product assets is a process that determines the extent to which augmented reality will be used for learning. The design stage is the preparation of ethnographic concepts to determine scientific content that will be included in the augmented reality concept. The development stage is the development of teaching materials that contain animation and simulation with augmented reality features. The implementation phase is carried out by socializing it in academic forums held in Central Sulawesi, the birthplace of the Bapidok Baku culture. Based on the implementation results, input will be obtained that supports the development of Ethno-AR learning materials at this evaluation stage. The excellent modeling results are then refined further using the Blender® desktop application. The complete 3D model is then imported into the Assemblr Edu cloud website application for markers placed on learning media. The results of the study show that this learning media has a very feasible category to be applied in learning. The average score for all aspects of learning media assessment is 6.62 which indicates a very feasible category. Augmented Reality combined with ethnoscience offers excellent opportunities to develop modern learning materials. Ethno-AR can present 3D models to convey understanding of this concept through rich local cultures with contextual examples. Students have initial knowledge, strengthened by displaying a 3D model of sweet potato from Banggai. On the other hand, the validated and implemented Ethno-AR shows a good trend as a medium of learning at a certain level. This support also has high productivity benefits and can be applied on an ongoing basis to other scientific topics. Apart from the outputs from the development model stage, there are also mandatory outputs, namely scientific articles published in reputable international journals. This research is still in the process of implementation, and has several obstacles so that for publication a scientific article is used as part of the research, namely Ethnosasins Oriented Augmented Reality Learning Media (Ethno-AR) for the Indigenous Banggai Bapidok Baku for Science Learning. This article has been submitted to the publisher Data in Brief according to the Q4 status record on the Scopus indexer.

Kata Kunci: *Ethno-TPAC, Augmented Reality, Scientific Literacy, Competence*