DEVELOPMENT OF VIRTUAL-REALITY-BASED LEARNING MEDIA FOR APPLIED CIVIL ENGINEERING STUDENTS: A CASE IN BUILDING INFORMATION MODELLING SUBJECT

by Dr.-Ing. Satoto E. Nayono, S.T., M.Eng., M.Sc., Ir. Pramudiyanto, S.Pd.T., M.Eng., Dr.-Ing. Suwartanti, S.T., M.Sc., Maris S. Nugroho, S.Pd., M.Eng., Elviana, S.Pd., M.Eng.

ABSTRACT

Currently, the architecture, engineering and construction (AEC) industry is facing enormous technological and institutional transformations with their resultant difficulties and challenges. The industry is embracing new modes of information sharing and adopting emerging and fast-growing concepts such as building information modelling (BIM), sustainability, virtual collaboration and related technologies. The purpose of this research is to gain a prototype of learning process using recent technology on construction industry, to help the learner achieved the required capability and specialized technical competence, as mentioned on ASCE Policy 465. The use of recent technology in teaching and education, especially in the construction industry will lead both teacher and student to develop the skill required by the industry.

This is a research and development using ADDIE approach. The objects are one and two storey building. It was started with identifying teaching plan, materials and students need. The next step is designing the VR media and validation to experts. The last step is analysis and evaluation.

According to the expert judgements, the VR media produced is feasible to be use as a media for teaching purposes. The VR media can not easily distribute since it required a sophisticated equipment. But the VR media offer the great value of teaching so further development still needed to enhance the teaching method.

Kata Kunci: *AEC, BIM, VR, teaching and learning*