ABSTRACT

Sandy Aji Aditama. *Development of Mobile Learning integrated Learning Management System on Colloid System. Thesis, Chemistry Education, Faculty of Mathematics and Natural Science, State University of Jakarta. August 2022*

The objective of this research is to develop learning education media of mobile learning integrated learning management system and to know the feasibility of developed media and its implementation used to assist teaching and learning activities in colloid system material. The research was carried out at both SMAN 4 Tambun Selatan and SMAN 11 Jakarta in April 2022 up to August 2022. Research methodology applied in this research is Research and Development (R&D) of Borg and Gall which is modified into 3 main phases are the preliminary research stage, the model development planning stage, and the model validation, evaluation, and revision stages. The results of mobile learning media consist of applications for smartphones with an Android operation system called "colloidsystem.apk" which is integrated with a wordpress-based LMS. The components of learning covered in mobile learning media include practicum instructions, learning videos, practicum videos, quizzes, games, discussion rooms and competences on electrolyte and non-electrolyte material using an experiential learning theory approach. In the media validation test stage, a percentage of the overall average value of 86,39.% with a value of $r = 0,79$. In the material and language validation test stage, a percentage of the overall average assessment was produced 89,44% with a value of $r = 0,91$. The results of small scale media trials on students were 87,96.% and the results of large-scale media trials on students were 90,05.%. Overall the results of media trials resulted in very good criteria. This can also be seen from the complete learning features and the ease of accessing media and learning tools, so it can be concluded that the integrated mobile LMS on colloid system materials through the experiential learning theory approach that has been developed is suitable to support learning.

Keywords: Mobile learning, learning management system, colloid system, experiential learning theory approach