Development of the Learning Management System at SMA Negeri 1 Situjuah Limo Nagari

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Abstract

This thesis assessment aims to be a medium for applying the knowledge possessed in a scientific work obtained during education at Padang State University, which provides education in computer science and other sciences. This thesis is directed at developing a learning management system that produces e-learning products at SMA Negeri 1 Situjuah Limo Nagari, which does not yet have an online media to assist the learning process at SMA Negeri 1 Situjuah Limo Nagari. This research uses the type of research and development R&D (Research and Development). The research model used is the Hannafin and Peek research model which consists of 3 phases, namely Need Assessment (needs analysis phase), Design (design phase), and Develop/Implement (development and implementation phase). The product validity test was carried out by 3 validators, namely one material expert validator and two media expert validators. The practicality test was carried out on 22 students of SMA Negeri 1 Situjuah Limo Nagari to determine the practicality of the product. The results of the product validity test from validators I and II received a score in the very valid category. Furthermore, the material validation test by the material validator carried out by the science subject teacher received a score in the very valid category. Furthermore, the product practicality test by students of SMA Negeri 1 Situjuah Limo Nagari received a score in the very practical category.

Keywords: *Development of E-learning Science Web for Class XI Students of SMA Negeri 1 Situjuah Limo Nagari*

INTRODUCTION

The influence of information and communication technology in the world of education is increasingly felt in line with the shift in learning patterns from conventional face-to-face to more open and media-based education. With the influence of globalization, future education will be more open and two-way, diverse, multidisciplinary, and related to work productivity and competitiveness.

The learning process is the most important activity in education. The learning process cannot be done easily but requires a lot of attention and supporting factors for a student to understand. Factors that influence the learning process are school factors or educational institutions as facility providers, student or learner factors, and teacher or instructor factors. The first factor that influences the learning process is the educational institution as a facility provider. For educational institutions, providing learning facilities is an obligation as an effort to realize the ideals of making the nation's life intelligent. Learning facilities are divided into physical and non-physical forms.

Currently, the learning system at SMA Negeri 1 Situjuah Limo Nagari in Kab. Fifty cities in West Sumatra Province are still running manually, namely using the conventional method where a teacher and a textbook are used as reference material in the process of teaching and learning activities in the classroom. Likewise, providing subject materials and assignments that students will read and study, with relatively little time so they are slow to understand. This way of learning still has many shortcomings faced by students, for example if a teacher is unable to attend due to illness or other needs so he cannot teach as usual, it is rare for a teacher to immediately take his place to teach. Likewise, if students are sick or have other needs so they cannot attend lessons at school.

At SMA Negeri 1 Situjuah Limo Nagari there are facilities available that support the implementation of learning using e-learning but they have not been fully used, whereas if a learning website such as e-learning is designed, it will make it easier for teachers to upload material, questions and other learning. Students also use e-learning to make it easier for them to organize study sessions, recognize assignments well, and so on.

Based on the explanation and description above, the author wants to develop e-learning by developing a Learning Management System that suits the needs of the Situjuah Limo Nagari

1 State High School in terms of complementarity (substitution) to increase student activity and creativity in learning, as well as the ability to use technology effectively. Good. Based on the background described above, the author is interested in conducting further discussion by raising the title Learning Management System Development at SMA Negeri 1 Situjuah Limo Nagari.

RESEARCH METHOD

StudyThis uses a research and development model. Research and development (R&D) is a method**study**which are used to produce certain products and test the effectiveness of these products (Sugiyono, 2019). The development model is an effort to expand a product to a better situation. In this research, the development model used is adapting the Hannafin and Peck model, because the Hannafin and Peck model is a simple but elegant model (Jampel & Suwatra, 2018). Researchers use this model because the Hanafin and Peck model is one of many product-oriented learning design models. A product-oriented model is a learning design model to produce a product, usually learning media (Afandi and Badarudin, 2011:22). The Hannafin and Peck model consists of three phases, namely Need Assessment (needs analysis phase), Design (design phase), and Develop/Implement (development and implementation phase). The three phases are connected to the evaluation and revision phases. In this model, each phase will be assessed and repeated.

RESEARCH RESULTS AND DISCUSSION

Based on the results of research that has been carried out in accordance with the steps for developing the Hannafin and Peek models, namelyneeds analysis phase,design phaseAnddevelopment and implementation phases,so thatproduced an e-learning product at SMA Negeri 1 Situjuah Limo Nagari. The data collection instruments used were assessment sheets for media validators, material validators and questionnaire sheets for students using a 5-point Likert response scale (1-5 scale). Based on the research that has been carried out, the results obtained are as follows.

1. Media Validation

   Media validation was carried out by 2 media validators, namely Mrs. Ulfia Rahmi, M.Pd (validator 1) and Mr. Nofri Hendri, M.Pd (validator 2), lecturers at the Department of Curriculum and Educational Technology, Faculty of Education, Padang State University. The aspects assessed in this e-learning product are Usability, Information Quality, Service Interaction Quality, and Visual Quality. The results of the validation value by media validator 1 obtained an average value of 4.17 in the "very valid" category. And the results of the validation value by media validator 2 obtained an average value of 4.75 in the "very valid" category. Based on the media validation results, it can be concluded that the e-learning product at SMA Negeri 1 Situjuah Limo Nagari is "very valid" to use.

2. Material Validation

   Material validation was carried out by one material validator, namely Mr. Irjal, S.Pd as a science subject teacher at SMA Negeri 1 Situjuah Limo Nagari. The aspects assessed in e-learning product materials are Usability, Functional and Visual aspects. The results of the material validation assessment obtained an average score of 4.34 in the "very valid" category. Based on the results of material validation, it can be concluded that the e-learning product at SMA Negeri 1 Situjuah Limo Nagari is "very valid" to use.

3. Practicality Test

   The Practicality Test was carried out involving 22 respondents, namely students of SMA Negeri 1 Situjuah Limo Nagari. The aspects assessed in the product practicality test are appearance and ease of use. Based on the results of practicality trials, an average score of 4.69 was obtained in the "practical" category. Based on the description above, it can be concluded that the e-learning products at SMA Negeri 1 Situjuah Limo Nagari are "practical" to use.

Dong defines that, electronic learning is an asynchronous teaching and learning activity through computer electronic devices connected to the internet where students try to obtain learning materials that suit their needs (Zainudin & Aini, 2021).

Based on the results of research that has been carried out in accordance with the steps in developing the Hannafin and Peck model, namelyneeds analysis phase,design phaseAnddevelopment and implementation phases, thus producing an e-learning product at SMA Negeri 1 Situjuah Limo Nagari.

The data collection instruments used were assessment sheets for media validators, material validators and questionnaire sheets for students using a 5-point Likert response scale (1-5 scale). Based on the research that has been carried out, media validation results were obtained with an average value of 4.46 in the "very valid" category, material validators obtained an average value of 4.34 in the "very valid" category and the practicality test obtained an average value of 4 .69 in the "practical" category and based on the description above it can be concluded that the e-learning product at SMA Negeri 1 Situjuah Limo Nagari is "practical".

CONCLUSION

Based on the data analysis that has been carried out, thencanwithdrawn conclusion as follows:

1. Research was carried out in 3 stages according to the Hannafin & Peck model which consists of 3 main stages, namely Needs Analysis, Design, Development and Implementation. Product development begins with planning, initial product development, product validation, limited trials and producing the final product.
2. The results of the assessment from media validation by 2 (two) lecturers in the Curriculum and Educational Technology department obtained an average of 4.17 for validator I and 4.75 for validator II. From these values it can be concluded that the learning management system development media in the form of e-learning has been declared "very suitable or very valid". The media expert's assessment showed that the

e-learning developed was valid and tested on students.

3. The assessment results from material validation by science subject teachers obtained an average from validators of 4.34. From this value it can be concluded that e-learning has been categorized as "very suitable or very valid". The material expert's assessment shows that the media developed is worth trying out on students.
4. The results of the practicality assessment by 22 class XI students obtained an average of 4.69. From this value it can be concluded that this e-learning has been classified as "very suitable or very practical". In this way, the e-learning developed can be practically used as a support for the learning process for teachers and a learning medium for students.So it can be concluded that the media for developing a learning management system which produces e-learning products which are being tested in class XI in science subjects at SMA Negeri 1 Situjuah Limo Nagari has been valid and practical. So e-learning is suitable for use in learning process.

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