

Validity of E-Learning Based Module Development in Management Information System Course

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ABSTRACT

This research is motivated by the limitations of independent learning facilities that students can use wherever they are and the material being studied requires visualization, and the limited learning time in class causes the learning outcomes to be unsatisfactory. The purpose of this research is to develop a valid, practical and effective e-learning based learning module in the Computer and Informatics Engineering Study Program. E-learning is designed to assist students in learning by utilizing information and communication technology, so that learning can be done independently without being tied to time and place.

This type of research is development (Research and Development). The stages of media development are carried out using the 4D-Thiagarajan development model which includes four stages, namely (1) the planning stage (define), (2) the design stage, (3) the development stage, and (4) the deployment stage (disseminate). The trial was conducted on 40 students in the Department of Information and Computer Engineering, Bung Hatta University.

The data was collected based on the validity test analysis. The results of this study were declared feasible based on the feasibility test according to material and media experts with a total percentage of 87.7% in the good category. The resulting e-learning-based learning module can be applied or used by lecturers as a variety of learning tools, especially in the Management Information System course.

Keywords: Development, E-learning Module, Validity

INTRODUCTION

One of the fields that have had a significant impact on the development of this technology is the field of education, where basically education is a process of communication and information from educators to students that contains educational information.

Educational information has elements of educators as a source of information, media as a means of presenting ideas, ideas and educational material as well as students themselves, some of these elements get a touch of information technology media, thus sparking the birth of the idea of e-learning.

The solid material in the SIM course resulted in several times the learning process in the classroom was forced to be unable to be completed considering the limited time available. The time available for teachers and students in face-to-face classroom sessions is very limited (Brioschi et al., 2015; Cepeda. et al., 2014). In addition, the process of delivering teaching materials is completely carried out in the classroom which causes the delivery of teaching materials to be late or not even delivered if the meeting does not occur.

Based on these solutions, researchers want to innovate in learning SIM using modules as well as learning methods that contain instructional video tutorials. In this study, an e-learning based learning module will be developed which can be used as an alternative in learning activities on the basic concept competencies of SIM with a database information system.

The e-learning atmosphere plays an active role of a student in learning. Students can control their own learning and are free to determine their own learning methods. Based on a report presented in the 2016 Kaizen & INSEAD Education Symposium (KINSES 2016), 70% of the 3,000 academics from various universities in the United States believe that online education is equivalent to conventional education. Teachers can provide students with materials and videos for students to understand at home first, so that in class they only focus on discussing topics (Kompas.com, 25 April 2016)

Relevant research in this study is: Eril Syahmaidi's research (2015) in his research shows that video tutorial-based learning has been developed and is said to be appropriate. It is proven by the test in various kinds of E-learning assessments (93%), the assessment in the presentation is very valid (93%) the assessment of subject matter is very valid (93%), the assessment of learning media based on video tutorials is very valid.

The e-learning based learning module was developed with Lectora Inspire. Lectora Inspire is a computer program which is an e-learning development tool, developed by the Trivantis Corporation company which has various features in development. Lectora Inspire can combine text, images, sound animation, swf, and video into e-learning that is made. Publish the resulting development of this file (html).

The objectives to be achieved by researchers from this study are: To produce a valid, practical and effective e-learning based learning module in the Management Information system course in the Department of Information and Computer Engineering, Bung Hatta University.

METHODOLOGY

Researchers designed this study using a Research and Development (R&D) approach. According to Sugiyono (2014: 298) that: Research and Development (R & D) is a research method used to produce

certain products and test the effectiveness of these products.

This research and development is expected to produce learning media products for learning that are valid, practical and effectively applied to students in Computer and Information Engineering Education, Bung Hatta University.

This e-learning based module was developed using four-D models developed by Thiagarajan (1974, in Trianto, 2007: 65). This model includes 4 stages, namely define, design, develop, and disseminate.

Researchers collected information in the form of data derived from observations both on the situation, conditions, campus facilities to the learning process in the classroom as well as information on lecturers and students as well as Semester Learning Plans (RPS), RPS and syllabus in accordance with the existing curriculum in Informatics and Computer Engineering Education.

The products produced in this study will be designed in accordance with the Management Information System (SIM) course. In the process of activities to assess whether the product design is valid, in this case the new media is valid in terms of e-learning form for learning, the researcher has determined 3 expert lecturers of material and media experts as validators.

Design improvements were carried out by researchers if there were weaknesses found by media expert lecturers, after the media had been examined, after that the product trials were carried out on students to find out the level of practicality in their use, and then an evaluation was carried out on students to determine the effectiveness of the media on their learning outcomes.

The subjects for the R & D (Research and Development) research trial conducted by this researcher were PTIK majors in the SIM course, totaling 40 people at Bung Hatta University. In this study, the instruments used by researchers included: 1) Validation sheets for e-learning based learning modules. 2) Questionnaire to test the practicality of using e-learning based

learning modules. 3) Sheet of the effectiveness of e-learning based learning modules.

The data analysis technique used is adjusted to the type of data collected, namely using descriptive statistics and assistance with MS. Office Excel is used only for calculation tools.

$$\text{Validity value} = \frac{\text{the number of scores obtained from the validator}}{\text{the highest number of scores}} \times 100 \%$$

The data analysis carried out in this study are: a) Analysis of the validation sheet for e-learning based learning modules to determine the validity level of e-learning. b) Analysis of a questionnaire on the use of e-learning based learning modules by students to determine the practical level of using e-learning. c) Analysis of the effectiveness sheet on the e-learning based learning module by students to determine the level of media effectiveness on student learning outcomes.

RESULTS AND DISCUSSION

This research is a development research, namely the development of e-learning-based learning modules in the SIM course which is carried out in the Department of Education and Computer Engineering. This study uses a Four-D model design consisting of 4 stages, namely defining the design (development) and the distribution (dissemination).

The activities carried out in the preliminary and final analysis were in the form of curriculum analysis applied in the Department of Information and Computer Engineering, Bung Hatta University and media analysis. Then in the media analysis the researcher determines and considers the extent of the media used during the learning process. The goal is to produce quality products that can support the learning process, especially in the SIM course.

Based on the test results of the validity level of the e-learning-based learning module on the SIM course in the

PTIK department of Bung Hatta University which was carried out by 3 media expert lecturers from Bung Hatta University, the validation results showed that the average score was 87.7% with a good category, e-learning based learning modules on the SIM course have undergone revisions based on suggestions and comments given by the validator and have been corrected by researchers.

Table 1: Material Validity Results

Aspect	Validator Theory	Amount	Validity Value	Category
	1			
Assessment	19	88	92,6%	Very good

Sumber: Data Primer 14 Oktober 2020

Table 2: Media Validation Results

No	Aspect	Validator		Validity Value	Category
		1	2		
1.	Navigation	10	10	85 %	Good
2.	Convenience	21	21		
3.	Writing	21	20		
4.	Display	31	28		
Jumlah		122			

Sumber: Data Primer 14 Oktober 2020

The total number of scores from validators that can be obtained: 250

Average value of the 3 validators =

$$\frac{250}{285} \times 100 \% = 87.7 \% \text{ Valid}$$

CONCLUSION

According to researchers the conclusions obtained in this study are several things:

1. This research has produced an e-learning based learning module in the Department of Information and Computer Engineering, Bung Hatta University. The module development process was adapted from the 4-D model. This model consists of four stages, namely:
 1. Define or the defining stage,
 2. Design or the design stage,
 3. Development or the development stage, and
 4. Disseminate or the dissemination stage
2. The developed e-learning module has been declared valid after being validated

by 3 validators, 1 person for material validation and 2 people for design validation.

3. The results of student responses and direct observation of the practicality of e-learning based modules are in the practical category.
4. The results of the test of the effectiveness of the e-learning learning module in the very effective category are proven by the increasing student learning outcomes.

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