THE DEVELOPMENT OF E-LEARNING BASED MOODLE AS STUDENTS’ LEARNING MEDIA TO SUPPORT THE SCIENCE’S DEVELOPMENT AND ISLAMIC STUDIES AT STAIN GAJAH PUTIHTAKENGON

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ABSTRACT

Along with the development of information technology, which more rapidly, the need of a concept and mechanism of Information Technology-based learning becomes inevitable. Then, concept known as e-learning take affect transformation of occurs conventional education into digital form, both the content and the system that is bridged by the technology of internet. The concept of e-learning gives the possibility of more intensive interaction between lecturers and students more intensively, students with students in the classroom and outside the classroom. This study aimed to obtain e-learning media based Moodle is feasible and effective to support the development of science and Islamic studies in the Gayo Highlands through a series of development process. Based on the research objectives and the result of research that has been described, it can be concluded as follows: To develop the e-learning based Moodle is used development model 4-D (Four D Model) which is proposed by Thiagarajan, Dorothy S. Melvin I. Semmel which consists of four stages. The four stages are the stage of definition (define), the stage of design (design), the stage of development (develop) and the stage of deployment (disseminate). The results of development activities are: (1) e-learning media Gayo Belajar (www.elearning-gayobelajar.com) and (2) the use of guide books for lecturers and teachers. The results of specialists validation note that validity interventions in developing e-learning-based Moodle is declared valid or has a high validity. The analysis also shows the development of E-learning based Moodle is reliable or has a high level of reliability.

Keywords: E-learning, Moodle
INTRODUCTION

One of the information technology that is used in learning in school or in College, namely electronic learning (e-learning) to improve the quality of education. E-learning is made to facilitate a lecture/teacher in setting up learning activities and interact with students without limited time and space. During this time, the learning process in the classroom are always applying learning-centered system where students always expect the source of teachers, while students in the case are not very active in the class due to time limitation, it will make the learning activities are not creative because students are not required to think critically and independently in the learning activities so that need to be considered the applying of learning which engage the students more in the learning process.

E-learning can be implemented because of the interest service. Now you can enjoy the convenience of an interest connection for free with the wireless videlity (wifi), it has got to some education institutions such as secondary school and college that can be used by employees, students, teachers, and professors to ease the implementation of e-learning.

Today, the development of e-learning system-based opensource has been widely carried out by communities of developers. Opensource is a type of application software that is free download and can be freely used to modify. Some e-learning based opensource that have a lot of user community and offers a complete system is eFont, Moodle, Dokeos, Ilias and Claroline.

From the results of the survey on application of e-learning to support teaching learning process at educational institutions use quality standard ISO/IEC 9126, produced function aspects of quality value and usability of two system of learning, in example efont and moodle. From the results of measurements of the quality aspects of functionality and usability that was done showed that the system of efont has a value of quality 0.962745, it is higher than the value of quality moodle registration 0.90925. the details of the measurement results show that efont is superior in usability and characteristics and moodle has the edge characteristics of the functionality (Nurseha, 2014:106).

As moodle stands for Modular Object-Oriented Dynamic Learning Environment which means a place of dynamic learning with the use of object-oriented models (Cole J, and H Foste, 2008). The moodle application first developed by Martin Daougiamas in August 2002 which the
moodle version 1.0. Currently, moodle can be used by anyone in opensource. Beside an acronym, Cole and Foster also define moodle as a verb that means the process of doing such an exciting game and leads to addition of insight and creativity.

Moodle can be installed online as well as offline. Sustaining required so that moodle application can run offline is Apache Web Server, PHP, MySQL or PostgreSQL database. All of them can be obtained by downloading Xampp. Moodle which is installed directly by online need hosting, domain, and file moodle. Control panel which is no longer offline in the form of xampp control panel but it does through the online control panel, in example by using cPanel.

The advantages of moodle according to Amiroh (2012), namely: it is a light and simple, efficient, and compatible with many browsers, the installation is very easy with the support with a variety of languages, including Indonesian language, availability of site management for overall site settings, the change of module, and so on, the availability of user management (user management) and good management course.

The ease of installation in arranging e-learning is one of the researchers’ consideration chose moodle e-learning as a base which will be developed.

Moodle has a variety of facilities that could be useful in support of learning activities. Facilities contained on the moodle such as assignment, chat, forum, quiz, and survey. An explanation for each of the facilities according to Amiroh (2012) is as follows.

1. Assignment is used to give assignment to students by online. Students can access the material duties and collecting duties by sending the file of their work’s results.
2. Chat is used by teachers and students to interact with each other by online in dialogue texts (online conversations)
3. The forum is an online discussion forum among teachers and students in discussing topics that relate to learning material.
4. The quiz is used to perform the exam tests online.
5. The survey used to make the trial of opinions.

Product e-learning based moodle is expected to make students study independently and capable in mastering the development of science and technology continue all at once. In addition, information technology as
well as a learning tool. The progress of information technology were able to help creating learning media in various forms. The media can be multimedia devices for simulation, e-book, e-learning and more. In this study, the concept of technology through learning tools is manifested in the form of e-learning moodle.

With the mastery of information technology, are expected to be born students of STAIN Gajah PutihTakengon who are creative and innovative, constructive, dynamic, capable in competing in global era, still rooted in the country’s ideological values, the values of the Islamic religion, cultural values of the nation and the relevant customs value shades of civilization.

The matter will be examined in this study is how to develop e-learning based moodle students’ as learning media to support the development of science and Islamic studies in STAIN Gajah PutihTakengon.

**METHOD**

The development of learning model is used in this study refers to the type of development model 4-D (Four D Model) expressed by Thiagarajan, Dorothy S. Semmel and Melvi (1974). The four stages are the stage of definition (define), stage of design (design), stage of development (develop) and the stage of spread (disseminate), these development Models tailored to the needs and context of the research. The stages of development on the model in a nutshell as follows.

1. **The definition Phase (define)**
   The purpose of the definition phase is to establish and define the requirements of development.

2. **Stage of design (design)**
   This stage aims to design learning media e-learning with guided books for lectures and teachers thus obtained the initial design/prototype.

3. **Development stage (develop)**
   The purpose of the development stage is to produce a draft or final design of e-learning and use of the guided book for lectures and teachers. The final design has been through the revision based on the inputs from the experts and data obtained from the tests.
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4. Distribution stage (disseminate)
In this phase, researchers perform socialization to introduce product research results to the lectures and students in STAIN Gajah PutihTakengon.

RESULTS AND DISCUSSION
The following described the results obtained on each e-learning development process in accordance with the model development of 4-D.

1. The Results of The validation on The E-learning Media
Aspects that are assessed in validating e-learning based moodle is a software engineering aspects and aspects of audio communication. The following summary of the results of the evaluation of validity and reliability e-learning based moodle.

Table 1. Summary of the assessment of e-learning based moodle results.

<table>
<thead>
<tr>
<th>VALIDATOR I</th>
<th></th>
<th>VALIDATOR II</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weak Relevance (Rate1)</td>
<td>Strong Relevance (Rate 2 dan 3)</td>
<td>Weak Relevance (Rate1)</td>
</tr>
<tr>
<td>0</td>
<td>0</td>
<td>13</td>
</tr>
<tr>
<td>RVI = 1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>R = 1</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The results of the analysis show that coefficient of the validity for the e-learning based moodle is 1.00, this means interventions undertaken in developing e-learning based moodle can be declared valid or have a high level of content validity. The results of the analysis also showed that the realiability coefficient obtained for e-learning based
moodle based on the results of the assessment of the experts is 1.00 which means reliability or have a high level of reliability.

Although the overall aspects have meet the criteria of validity generally e-learning based moodle can be used but the votes need to be little bit of revision. There are some suggestions from the validators to note for perfection of e-learning. Such suggestion as follows:

**Table 2.** Revision e-learning based moodle on assessment

<table>
<thead>
<tr>
<th>No</th>
<th>Before Revism</th>
<th>After Revism</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Has not available yet the menu of finding the course and selecting course that available in the front page</td>
<td>In the front page is added menu of finding course and the list of course</td>
</tr>
<tr>
<td>2.</td>
<td>When register as the user, user candidate can include the user’s name format freely so it can be difficult when administrating the teaching</td>
<td>Adding the information about username in NIP/NK or NPM/NIP format</td>
</tr>
</tbody>
</table>
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<table>
<thead>
<tr>
<th>No</th>
<th>Before Revism</th>
<th>After Revism</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>and learning process in e-learning</td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td>Has not been completed yet the support video</td>
<td>Adding the tutorial video of how to register as a user in front page</td>
</tr>
</tbody>
</table>

2. The Results of The Validation Handbook Use of E-learning

Aspects are assessed in validating e-learning based moodle guided book to grasp, systemic aspects, coherently, and logic flow is clear, the clarity of explanation, discussion, and examples, as well as aspects of the format of the presentation space/layout. The following summary of the evaluation of validity and realiability results of e-learning based moodle’s guided book.
Table 3. Summary of the evaluation e-learning based moodle guided book

<table>
<thead>
<tr>
<th>VALIDATOR I</th>
<th></th>
<th>VALIDATOR II</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Weak Relevance (Rate 1)</td>
<td>Strong Relevance (Rate 2 dan 3)</td>
<td>Weak Relevance (Rate 1)</td>
<td>Strong Relevance (Rate 2 dan 3)</td>
</tr>
<tr>
<td>0</td>
<td>0</td>
<td>4</td>
<td>0</td>
</tr>
</tbody>
</table>

\[ RVI = 1 \]
\[ R = 1 \]

The results of the analysis show that coefficient of the validity for the e-learning based moodle guided book is 1.00, this means interventions undertaken in developing e-learning based moodle guided book could be declared is valid or have a high level of content validity. The results of the analysis also showed that the reliability coefficient obtained for e-learning based moodle guided book upon the results of the expert assessment is 1.00 which means reliability or have a high level of reliability.

Although the overall aspects have fulfilled the criteria of validity and generally e-learning based moodle guided book can be used but the votes need to be a little bit of revision. There are some suggestions from the validator to note the perfection e-book learning. Such as suggestions as follows:

1. Image on guidebooks, it is better Indonesian language so that the reader understand it more easily (validator).
2. It is better to provide the guided book of usage more e-learning for students (validator).
3. The modul is generally pretty good, because it describes an easy to understand language and layout/design also increases the ease in understanding the contents of modul in the form of e-learning usage guide (Validator II).
4. The advice of the validator related to visualization of guide book in the language of Indonesia has not been accommodated by the researchers, this is because lecturer as the users still can follow the visualization in English. In addition each item or theme in settings that use visualization in English always provided explanation in Indonesian language. Other suggestions is to provide guidebooks for students responded by setting up a tutorial video for students to register as a user. As for how to follow the activity in the course is depend on the setting of the course by the lecture.

CONCLUSION

This research aims to gain learning media e-learning based moodle that is feasible to support the development of science and Islamic studies in STAIN Gajah PutihTakengon through a series of process development. Based on the purpose of the research and the research results that have been outlined, it can be summed up as follows.

1. The results of development activities namely (1) learning media e-learning GayoBelajar (www.elearning-gayobelajar.com) and (2) guided book usage for lectures and teachers.

2. The results of validation experts/pundits note that intervention undertaken in developing e-learning based moodle could be declared valid or have a high level of content validity. The results of the analysis also shows the development of e-learning based moodle is reliable or have a high level of reliability.
3. The results of validation experts/pundits note that intervention undertaken in developing the e-learning based moodle guided book could be declared valid or have a high level of content validity. The results of the analysis also shows the development of e-learning based moodle guided book is reliable or have a high level of reliability.

REFERENCES


