E-LEARNING IN SUPPORT OF LEARNING EFFECTIVENESS IN CAMPUS

Agnes Novita Ida S

1Perbanas Institute Jakarta

1agnesidanovita@gmail.com; agnesnoandari@yahoo.com

Abstract

The rapid development of information and communication technology has urged various educational institutions including campuses to utilize an e-learning system to enhance the learning effectiveness and flexibility for students. The e-learning study in support of the learning effectiveness in campus is conducted by using the Moodle software. This research and development study is aimed at producing products/applications that can be used to achieve effective learning and motivate students in learning. Thus, students are able to discuss with their lecturers or fellow students at any time relating to problems to be dealt with for the right solution. The lecturers may also upload their course materials through multimedia and internet link to obtain information relating to the relevant course materials to further encourage students to actively participate and follow the given subjects.

Keywords: information technology, e-learning, effectiveness, moodle

INTRODUCTION

The rapid development of information and communication technology has urged various educational institutions to utilize an e-learning system to enhance the learning effectiveness and flexibility for students. Until recently, however, many educational institutions or campuses have still been using a traditional learning system or face-to-face approach in the classroom. The traditional learning system has made the students who could not attend the lectures in the classroom due to some reasons could not have anything to learn nor completed the tasks given by the lecturers at that time. Among the drawbacks of the traditional learning system is the unattractive presentation of course materials to students that are less motivating. Furthermore, if the students may have difficulty in understanding specific learning materials outside of campus they may also have difficulty in having a discussion with their lecturers or other students.

To deal with these problems, an e-learning technology method can be used as a means to achieve the effectiveness in student learning. Thus, learning materials can be accessed at anytime and anywhere, and can be presented more attractively, such as, by using multimedia tools (via texts, graphics, sound, videos and animations) and internet links to be connected to many relevant sources.

With the multimedia technology-based e-learning system, students are expected to gain an increase in their learning experience as this technology is able to facilitate teaching and learning interactions between students and their lecturers anywhere and at anytime.
LITERATURE REVIEW

Internet

Literally, an internet (abbreviation of the interconnected networking) is the global system of an entire computer networks connected together using the standard Internet Protocol Suite (TCP/IP) to serve billions of users worldwide. The Internet is the vast global computer networks interconnecting with one another among countries around the globe and provides various kinds of information, ranging from texts, images, audio, videos, and many more. The information is made by providers or owners of computer networks or by information owners entrusting their information to the internet service providers. The word internet is defined below from several sources:

Internet is the huge network that connects computer networks in the fields of businesses, organizations, government agencies, and schools around the world, in fast, direct, and economical ways (Turban, et al., 2006). Mac Bride as translated by Sugeng defines it as an open global communications network and connects thousands of computer networks, via public or private telephone lines (public or private) (Mac Bride, 1997). The internet is defined as the collection of computer networks that work together globally in distributing information exchange via TCP/IP (John December, 1997).

E-learning

E-learning is the learning method that is currently developed by utilizing the computer as a medium of learning, in addition to giving an innovation that has contributed greatly to change the teaching and learning process. The learning process is no longer presented by only listening to the descriptions of materials given by the lecturers but it is visualized in various formats and forms in a more dynamic and interactive way (files, videos, music, animations, etc.) (Ruli, 2009). The e-learning system and application have been widely applied in a number of universities and companies in Indonesia. The e-learning concept has now been growing as it has advantages compared to conventional systems, namely: saving learning time, reducing travel cost, saving educational cost (infrastructure, equipment, books), reaching a wider geographical area, and training students to become more independent in gaining knowledge (Romi, 2007).

The development of e-learning is a must for all the universities to improve the quality standards of their education. The e-learning system requires the use of the internet technology so that the learning materials can be presented more widely. The existence of the computer-based media learning as a tool can save hours of preparation time, motivate the students’ learning experience and minimize the students’ confusion in understanding the explanations of their lecturers (Ali M, 2009).

Moodle

In line with the technological advances and changing trends and dynamic lifestyles of the people that tend to move fast (mobile), the need for distance learning or commonly referred to as the tele-education is also increasing. The e-learning system as a part of the tele-education provides an alternative way of a new learning. Although lecturers and students are not in the same room and time, the teaching and learning process may still be conducted in a virtual environment. MOODLE is the software package produced for the internet-based learning activities and for websites.
commonly known as a Learning Management System (LMS)/Course Management System (CMS)/Virtual Learning Environment (VLE) or Curriculum and Information Management System (CIMS).

METHOD

The research and development is the study method used to produce a particular product and test the effectiveness of the product. The R&D may initially be conducted due to any potential or problem that occurs. The potential is anything that when used, it will have an added value, while the problem is the deviation between the expected and occurring events. The next stage following the analysis of the potential and problem stages is the development stage and further, production of a product (Sugiyono, 2010: 407-409). The next stage is the development of the e-learning products, and in this study, the development method adapts Alessi & Trolip model. The study of the research development is adapting Alessi & Trolip development model (2001: 409-413) that has three attributes and three phases, as illustrated in Figure 2 below.

![R & D Study Model](image)

**Figure 1:** R & D Study Model
Adapted from Alessi & Trolip Model
## RESULTS AND DISCUSSION

The results of this study will be used for lecturers, students and administration of lecturers. Whereas, the features that can be obtained by each user are as follows.

### Features for Lecturers

<table>
<thead>
<tr>
<th>No.</th>
<th>Features</th>
<th>Remarks</th>
<th>Period</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Logging-in to e-learning</td>
<td>To be filled-in when logging-in to e-learning</td>
<td>Each time logging-in to e-learning</td>
</tr>
<tr>
<td>2</td>
<td>Having access to courses to be taught</td>
<td>Lecturers have access to courses to be taught</td>
<td>Course is input each semester</td>
</tr>
<tr>
<td>3</td>
<td>Having access to student lists</td>
<td>To have access to the student list in their class each semester</td>
<td>Student list is input each semester</td>
</tr>
<tr>
<td>4</td>
<td>Modifying courses’ descriptions</td>
<td>Filling-in or modifying courses’ descriptions</td>
<td>Upon any courses’ modifications</td>
</tr>
<tr>
<td>5</td>
<td>Uploading courses’ materials</td>
<td>Uploading courses’ materials to be taught each semester</td>
<td>When uploading courses’ materials</td>
</tr>
</tbody>
</table>

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**Figure 2:** E-learning development process
### Assigning tasks to students

- **6.1 Assignment**
  - **6.1.1 Availability**
  - **6.1.2 Sub mission Types**
- **6.2 Quiz**
  - **6.2.1 Timing**
  - **6.2.2 Grade**
  - **6.2.3 Layout**
  - **6.2.4 Question Behavior**

### Making questions for quizzes

- **7.1 Essay**
- **7.2 Multiple choice**

### Features for Students

<table>
<thead>
<tr>
<th>No</th>
<th>Features</th>
<th>Remarks</th>
<th>Period</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Logging-in to e-learning</td>
<td>To be filled-in when logging-in to e-learning</td>
<td>Each time logging-in to e-learning</td>
</tr>
<tr>
<td>2</td>
<td>Having access to courses to be taught</td>
<td>Students have access to courses to be taken and lecturers who teach the courses</td>
<td>At the beginning of each semester</td>
</tr>
<tr>
<td>3</td>
<td>Having access to course materials, completing and uploading the tasks</td>
<td>Students have access to course materials given by the lecturers and completing and uploading the tasks to the system</td>
<td>At any learning session</td>
</tr>
<tr>
<td>5</td>
<td>Completing quizzes and having access to the results</td>
<td>Students may complete quizzes given by the lecturers and having access directly to the results from the system</td>
<td>At any quizzes given by the lecturers</td>
</tr>
<tr>
<td>6</td>
<td>Holding a discussion forum between the students and</td>
<td>Students may hold a chatting discussion with the lecturers and fellow students</td>
<td>At any discussion held with the lecturers and fellow students</td>
</tr>
</tbody>
</table>

When giving tasks and quizzes:

- When giving tasks and quizzes

When making questions for quizzes:

- When making questions for quizzes
- **Features for Administration staffs in charge of the lecturers**

<table>
<thead>
<tr>
<th>No</th>
<th>Features</th>
<th>Remarks</th>
<th>Period</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Logging-in to Perbanas e-learning</td>
<td>To be filled-in when logging-in to Perbanas e-learning</td>
<td>When logging-in to Perbanas e-learning</td>
</tr>
<tr>
<td>2</td>
<td>Monitoring contents of course materials</td>
<td>Administration staffs in charge of the lecturers are monitoring contents of course materials given by the lecturers</td>
<td>On a weekly basis</td>
</tr>
</tbody>
</table>

**CONCLUSION**

Based on the e-learning research, it can be concluded as follows:

1. The existence of the e-learning system creates a more effective learning experience in campus, where students may access course materials at anytime and anywhere without having to wait for the lecturers;
2. Students may discuss with their lecturers or fellow students at any time concerning the problems to be dealt with for the right solution;
3. Lecturers may upload lecture materials in such forms as power point via the internet link relating to the relevant lecture materials or interesting videos that can motivate students to follow and participate in courses given.

**REFERENCES**


