

DEVELOPMENT OF BLENDED LEARNING MODEL USING WORDPRESS

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Abstract. In general, the learning process is implemented by using face-to-face model, meaning that participants and teachers are in one place and one time. With this model, usually communication between participants and teachers can be easily implemented. But there are some obstacles that may be faced, such as the lack of time to discuss and the limited space that can be used. To overcome these problems, a model is needed that provides a medium for meeting participants and teachers without limited space and time. The model is known as blended learning. The blended learning model allows participants and teachers to discuss, share material and practice questions on a virtual classroom. The research undertaken is to develop a blended learning model using an analysis of the blended learning implementation framework and the use of Content Management System (CMS) WordPress technology. With this model is expected to be an additional media used to support teaching and learning process.

Keywords: blended learning; virtual class; wordpress.

Abstrak. Secara umum, proses pembelajaran dilaksanakan dengan menggunakan model tatap muka, artinya peserta dan guru berada di satu tempat dan satu waktu. Dengan model ini, biasanya komunikasi antar peserta dan guru dapat dengan mudah diimplementasikan. Tapi ada beberapa kendala yang mungkin dihadapi, seperti kurangnya waktu untuk berdiskusi dan keterbatasan ruang yang bisa digunakan. Untuk mengatasi masalah ini, diperlukan sebuah model yang menyediakan media untuk bertemu peserta dan guru tanpa ruang dan waktu yang terbatas. Modelnya dikenal sebagai blended learning. Model blended learning memungkinkan peserta dan guru mendiskusikan, berbagi materi dan mempraktikkan pertanyaan di kelas virtual. Penelitian yang dilakukan adalah mengembangkan model blended learning menggunakan analisis kerangka kerja implementasi blended dan penggunaan teknologi WordPress Content Management System (CMS). Dengan model ini diharapkan bisa menjadi media tambahan yang digunakan untuk menunjang proses belajar mengajar.

Kata kunci: blended learning; kelas virtual; wordpress.

INTRODUCTION

The development of a blended learning model is a combination of conventional classroom teaching in face to face and online virtual classroom. The use of blended learning model aims to limit the space and time contained in the conventional class can be overcome.

The blended learning model should be implemented using a good framework for optimum results. In addition to a good

framework, the selection of appropriate supporting technologies can also be a success factor in the application of blended learning.

Research conducted is to analyze the framework of application of blended learning model and analysis of technology selection supporting the model. The framework used will refer to existing research results. While the technology used is CMS WordPress. This CMS was chosen because in addition to open licensed, also has a number of features that are

quite complete and the number of plugins developed.

Given a good framework and appropriate technology, the development of blended learning model is expected to run properly.

DISCUSSION

Blended Learning

Blended learning is a mixture of conventional learning models in the classroom with an online learning model. This model allows participants and teachers to interact unlimited space and time. Blended learning combines aspects of web / internet based learning, video streaming, synchronous and asynchronous audio communications with traditional "face to face" learning (Sjukur, 2013).

The use of blended learning models has been increasing and adopted by many schools, colleges, universities and industries around the world (Hew & Cheung, 2014). Blended learning will be a tool that encourages the proportion of teaching in secondary schools

offered in online form by 50% by 2019 (Horn & Staker, 2011).

The online learning model has a number of advantages, including (Ellis, 2001; Foo, 2014):

- Increase time for students to repeat lessons.
- Help students introvert to learn without embarrassment.
- Allow each individual to study independently.
- Allow individuals to follow learning in their own more comfortable environment.
- Learning materials can be easily reproduced and distributed for all students.

The blended learning model can be implemented using a number of approaches. There is an identification of approaches that can be used to develop blended learning models in higher education such as supplemental, replacements, emporiums, fully online, and buffets. More details can be seen in Table 2.1 below.

Table 1. Blended Learning Model on High Education

Approaches	Description
Supplemental	<ul style="list-style-type: none"> • Maintaining the basic structure of traditional teaching, especially the number of face-to-face meetings. • Add lectures and books with a number of online activities (example: online quiz).
Replacements	<ul style="list-style-type: none"> • Reduced meeting time in class. • Changing face-to-face meetings with online learning activities for students.
Emporium	<ul style="list-style-type: none"> • Eliminate all classroom meetings. • Replace all classroom meetings with centralized learning that provides materials online.
Fully Online	<ul style="list-style-type: none"> • Allows students to learn independently as needed. • All learning activities are done online • Using automated assessment system so as to provide fast feedback to students.
Buffet	<ul style="list-style-type: none"> • Offer students a range of learning offer options such as teaching materials, group reviews, group study sessions, videos.

(Twigg C. 2003)

Implementation of blended learning needs to be well planned in order to run well and provide optimum results. In general, the

application of blended learning system consists of 8 stages, as follows (Foo, 2014):

1. Define learning objectives.

2. Analysis of learning participants.
 3. Establishment of readiness.
 4. Determination of pedagogical approaches and instructional strategies.
 5. Development of blended learning model.
 6. Implementation of blended learning model.
 7. Collection of feedback for evaluation.
 8. The final form of the system
- In addition to considering the approach to be used, the application of blended learning model requires attention to a number of issues that can be considered, in detail can be seen in Table 2 below.

Tabel 2. Issues Related to The Implementation of Blended Learning Models

Keywords	Consideration
Institutional support	<ul style="list-style-type: none"> • Is there sufficient technical support? • Are there adequate human resources for planning, designing, and developing blended learning?
Infrastructural readiness	<ul style="list-style-type: none"> • Is there a reliable and powerful broadband system and access?
Content readiness	<ul style="list-style-type: none"> • Are all the materials prepared themselves from scratch? • Are materials adopted from a number of open educational resources?
Instructor readiness	<ul style="list-style-type: none"> • Do teachers have the ability to provide online discussion facilities? • Are teachers willing to contact students who are not participating? • Do teachers have the ability to deal with annoying online students? • Are teachers able to promote the developed online learning system? • Do teachers have the ability to properly prepare lecture websites?
Learner readiness	<ul style="list-style-type: none"> • Do students have experience in the use of information technology? • Are students experienced in internet usage?

(Foo, 2014; Hew & Cheung, 2014; Twigg, 2003)

WordPress is a Content Management System (CMS) technology that can be used to build web, personal blog, or Learning Management System (LMS). One of the main advantages that WordPress has is the amount of pulgin developed by independent developers (Patel, Rathod, & Prajapati, 2011).

WordPress is one of the CMS licensed open, meaning it can be used for free. Based on a survey conducted by Alexa, WordPress received a percentage of 12.5% for one million websites using CMS technology, followed by Joomla 2.5% and Drupal at a percentage of 1.4% (Patel, Rathod, & Prajapati, 2011). Key features owned by WordPress among others:

1. Dashboard for content setting.
2. Writing management (post).
3. Media management (images, audio, video).
4. Page creation.
5. Comment management comments.
6. Setting themes, views, menus, and headers.
7. Plugin management.
8. User management

The Blended Learning Implementation Framework

Application of blended learning model should be done in a planned manner. Research has been done by experts can be used as a reference for the framework of application of blended learning, such as research conducted by Hew and Cheung (2014) as summarized in Table 3.

Based on the results of the analysis on the framework of the application of blended learning system, the simplification of the steps that can be used for the application of blended learning can be seen in Figure 1. (adopted from Heuw & Cheung, 2014).

WordPress as Supporting Technology

The use of blended learning model is the mixing of conventional learning model (face-to-face) in class with internet-based learning model. The technology used to support blended learning model must be able to represent the real conditions contained in the physical class.

Tabel 3. Blended Learning Framework

Step	Description
1. Determining learning goals	This stage is done to determine the expected objectives of the development of blended learning system. In addition, the purpose can be used as a control to perform monitoring and evaluation of system implementation.
2. Analysis of learning participants	This stage is done to analyze the readiness of the participants. In detail this stage is in step 3 (this stage can be ignored).
3. Establishment of readiness	At this stage of readiness formation, there are five main issues to be considered: <ul style="list-style-type: none"> • <i>Institutional support</i> • <i>Infrastructural readiness</i> • <i>Content readiness</i> • <i>Instructor readiness</i> • <i>Learner readiness</i>
4. Determination of pedagogical approach and instruction strategy	At this stage determined pedagogical approach in system development.
5. Development of blended learning model	At this stage, the development of blended learning model is desired. There are five forms of models that can be used as a reference that is [6]: <ul style="list-style-type: none"> • <i>supplemental,</i> • <i>replacements,</i> • <i>emporium,</i> • <i>fully online,</i> • <i>buffet.</i>
6. Implementation of blended learning model	This stage is executed to perform the implementation of the previous steps. At this stage the selection of technology will be used to develop blended learning system.
7. Collection of feedback for evaluation	This stage is run to evaluate and monitor the system that has been implemented; the objectives contained in step 1 can be used as evaluation reference.
8. The final form of the system	Once the system is applied and evaluated, it is expected to form a blended learning system that fits the purpose.

(Heuw & Cheung, 2014)

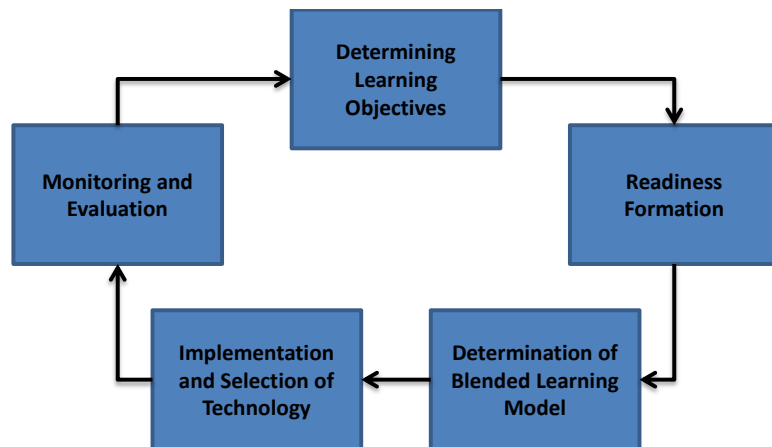


Figure 1. The Blended Learning Implementation Framework

WordPress is one CMS that can be developed as a supporting technology blended learning model. Mapping WordPress features with attributes found in physical classes can be used as a reference for WordPress selection as a support technology (Table 4).

Table 4. Mapping of Conventional Classroom and WordPress Attributes

Conventional Class	WordPress
The teacher gives an explanation	Audio Media Video Media Post
Teaching materials	Audio Media Video Media Post
Class Discussion Assignment	Comment Audio Media Video Media Post
Collecting of Assignment	Email

Result

Based on the results of the framework analysis, the stages in the development of blended learning system consists of five steps, namely determining learning objectives, the formation of readiness, determining blended learning model, implementation and technology selection, and monitoring and evaluation.

The focus of this research is on the implementation and selection of technology. Development of blended learning model can be

done by using WordPress technology. In addition to having an open license, WordPress also has a number of features that can represent the attributes that exist in the conventional class into the online classroom.

WordPress has a main dashboard interface that is quite easy to understand. On the left side there is a main menu for post management, pages, media, and comments. More clearly can be seen in Figure 2.

One of the important features contained in WordPress is Post. Post allows users to publish articles either in the form of teaching materials, lecture assignments, or other important announcements. More clearly can be seen in Figure 3.

Another feature that can be used as a medium for displaying material is media management. WordPress supports media such as video, audio, and images. In addition to having independent media management, WordPress also supports embed code like links from YouTube or any other storage media to display on WordPress pages (Figure 4).

To represent a discussion in a conventional physical class, WordPress has a comment feature. Comments can be written by visitors (students) at the bottom of the post or page and may be replied by the admin (teacher) or by other visitors. More clearly can be seen in Figure 5.

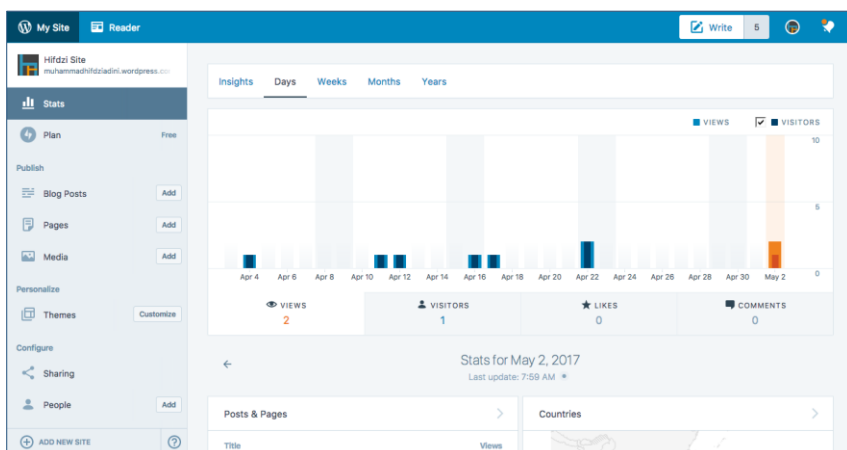


Figure 2. The main WordPress dashboard view



Figure 3 Writing material and assignments

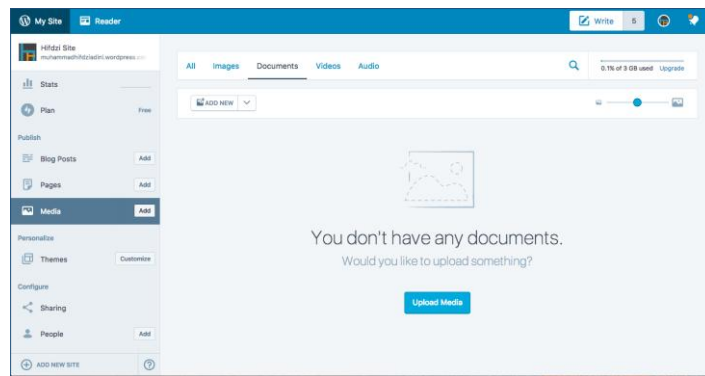


Figure 4. Media management for audio, video, and image

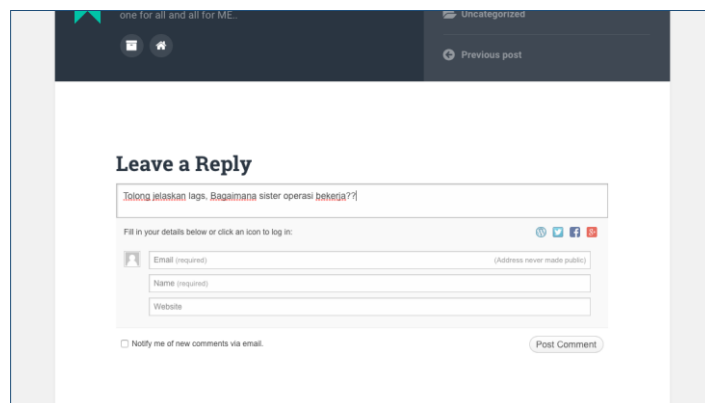


Figure 5 Feature comment as discussion medium

CONCLUSION

There are five major steps in the framework of blended learning implementation: Define learning objectives, Establishment of readiness, Determination of blended learning model, Implementation of blended learning model, Monitoring and evaluation. In addition to a good framework, the selection of the right technology is also one of the factors supporting the success of the blended learning model. One of the technologies that can be used is WordPress. WordPress can be used for free, and has a

number of features that can represent physical class conditions into virtual classes.

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