

The Model Development of Blended Learning by Using Facebook (MBL-fb) at Teacher Training and Educational Collage in the Institutional of Islamic Colleges

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Abstract: In fact, many students use Facebook for not positive reason while this kinds of social media can improve their learning creativity and motivation. This model development also improve the quality of learning process. The purpose of this research is to find a valid model of blended learning with Facebook (MBL-fb), the practical and effectiveness through the model development process. This development research model adapted the Ploom Model. The research data was taken by doing observation, using questionnaires, employing the learning test to the first semester Physics Education Department Students in 2015-2016 academic year. The result of the study shows that the MBL-fb which was developed have met the criteria of a valid model as well as the Instructional quality requirement. The result of the practicality showed that the stages in the model development become applicable in the instructional process, easy to operate and beneficial for both practitioner and the students. The Instructional effectiveness of MBL-fb are shown by the higher learning outcome acquired after being taught by MBL-fb than those who were not. Meanwhile, in case of the students perception toward the model, it was known that they got many advantages after using this model, beside expecting the sustainability.

Keywords: Blended Learning; Facebook; Teacher Training and Educational Collage; quality model.

1. Introduction

The social media has been giving the significant impact on the human life. Indonesia is ranked as the third biggest country user. The number of facebook users in Indonesia is predicted reach 96.2 million by 2018 [1,2]. The fact shows that many learners do not wisely use the media since they prefer using the social media for entertaining and social use. As the consequence it badly affect their learning achievement toward the negative trend. Some studies shows that, the use of technology in education, such social media can improve the students creativity, learning behaviour, and the achievement [3-5].

Facebook as a very popular social media creates changing participatory, collaborative, constructive, and influential learning environment. In terms of learning, Facebook-based activity can enhance the students' creativity in a conference environment in Malaysia [6]. Furthermore, facebook can be used as an online learning media for learning English in Malaysia [7], help learners who lives in different countries to have study in group and find the information needed in distance learning systems at the Distance University [8]. This media also used as the learning solution learners in learning English at schools and colleges in Malaysia [9]. Then, it can improve students' critical thinking skills, improve students' writing skills besi other types valuable drawback [10-11]. Another task of to utilize social media in learning they offers many benefit [12].

Responding the 21st century educational competencies related to technology, pedagogy, and learning content it is wisely to know Technological, Pedagogical, and Content Knowledge method (TPACK). Teachers and prospective teachers skillfully use technology especially ICT in learning. The teacher produced is a highly required to master teaching competency, technology and virtual face to face leaning process [13]. One of the solution is to make the improvements in “face-to-face” and virtual (online) services through the Model of Blended Learning.

Blended Learning is widely developed in Higher Education for this is a web-based blended learning. Requirements to ensure successful implementation of web-based blended learning can not be applied in LPTK-PTKI, especially the Faculty of Tarbiyah and Teacher Training UIN Imam Bonjol Padang. Faculty and even the Institute has not developed a website that can be used by lecturers for online learning. The weakness of web-based blended learning implementation can be overcome by using facebook on online learning. The results [14] showed that facebook is very potential to replace the web in online learning.

Toward this research the blended learning was developed by using fecebook since the its' applications allow the students that can be utilized in the field of education. Facebook can accommodate a lot of access through its fast, confidential, convenient and easy chareateristics. Facebook can also be a solution to space, time and psychological limitations in the implementation of the method of discussion in the conventional class (face to face).

The selection of facebook in online lecture is also based on several fundamental reasons. The studies show that that most students already have facebook account before registered as a university students. In more detail, there are 95.14% of the students spend less than 1 hour per day (45.59%), and login to facebook site several times per days [15]. It is generally found that there many mobile phones contain facebook. Bringing learning all the time through facebook that is very popular for learners in Indonesia, easy to operate and easily accessible from various mobile devices, is a potential, opportunities and challenges in teaching teachers or prospective teachers. The purpose of this research is to find The Model Development of Blended Learning by Using facebook (MBL-fb) at Teacher Training and Educational Collage in The Institutional of Islamic Colleges through the Model Development Process”.

2. Related Works

Studies using social media in blended learning include: using facebook as a supplementary tool for teaching and learning [16], collaboration blogger learning (CBL) learning development to enhance social interaction in blended learning [17], development of learning in design and practice lessons power plant based question posing blended learning [18]. The reseaches reveal that social media such as facebook and weblog can be use in the learning process. The entertainment orientation on facebook can be an edutainment tool and can increase students' participation, motivation, and learning outcomes. [16] compared facebook used in lectures with Moodle and Google Docs, and it turns out facebook can increase the participation of learners as well as the use of Moodle and Google Docs. [17] used weblogs for online learning, while [18] developed a question posing blended learning model using facebook. From this study further strengthen the assumption that facebook can be used in lectures. But how the steps of the method of discussion on face-to-face classes and online classes on facebook, and the form of assessment used has not been found.

Research on students' perceptions of blended learning includes students' perceptions of the different classroom environment between face-to-face programs, online, and blended methods [19], and students' perceptions of the blended learning environment [20]. The results of this study indicate that blended learning provides a better learning environment than face-to-face classes and online classes. Blended learning results in higher student enrollment rates and stronger feelings connected to the instructor/educator.

Several researches on the application of blended learning in education are comparison of novice programmers' performances: blended versus face-to-face [21], application of mbl in chemistry separation course chromatography material at chemistry department student at State University of Malang [22]. The others are influence interactive strategy of blended learning and achievement motivation on student results of TEP FIP UM [23], the effectiveness of blended learning implementation in terms of student motivation and student result of class XI IPA (Natural Science

Class) SMAN (Senior High School) 1 Kota Bima on reaction rate material [24], the influence of Learning Strategy Co-operative STAD-Based Web-Based Vs text and learning style of student outcomes [25], and blended learning strategy implementation learning to improve student's understanding of english tenses in Universitas Brawijaya [26]. The result of blended learning implementation in this study shows that blended learning gives better result than using face-to-face learning. Blended learning provides better results from the learning activities, learning motivation, learning satisfaction, and understanding the concepts of learners for many subjects.

Overall, from the results of the research, it is shown that blended learning is used to overcome the problem of time constraints and psychological limitations in face-to-face learning and gives good results in the learning process and outcomes. Face-to-face learning through cooperative learning and online learning through web-moodle, web-blog, twiter, and facebook.

However, these study have not specifically addressed the application of blended learning with facebook to lectures at LPTK (The Teacher training Office). The main difference is the development and application of MBL-fb as an additional class has never been done in LPTK-PTKI (The Islamic Teacher Training Office), especially the Faculty of Tarbiyah (Islami educational Faculty) and Teacher Training UIN (States of Islamic Iniversity) IB Padang. Practical model is seen from the level of implementation and the easiness of MBL-fb in the course, while the effectiveness of the model is recognized from the student perception at Biology class.

3. Methodology

The steps of development of MBL-fb design follow the development Plomp model: Preliminary research, development or prototyping phase, and Assessment phase. This stage is aimed at obtaining a valid, practical and effective product. The validity of the data were obtained from the ICT experts, learning strategies, language and biology. Practicality of the data and model effectiveness were obtained from biology/science lecturers and students of Tadris IPA-physics (The physic Department) Faculty of Tarbiyah and Teacher Training UIN Imam Bonjol Padang, who attended general biology semester semester academic year 2015-2016.

The data validity, practicality, and effectiveness of the model obtained from the instrument in the form of questionnaires and observation sheets. The Likert scale questionnaire was used to know the validity, practicality and effectiveness of the product. Observation sheet was use to see the model's implementation in learning.

The data analysis technique used was descriptive analysis technique. Qualitative data were analyzed descriptively based on inputs from experts, practitioners and students. Then the quantitative data was analyzed descriptively and quantitatively by finding the value of the score or percentage of respondents' answers [27-28], is shown in Table 1.

Table 1. The Score Criteria of the Validity and Practicality

The Validity Level	Valid interval score	The Practicality level	% Practical
Very Valid	> 3.20	Very Practical	81 - 100
Valid	2.40 – 3.20	Practical	65 – 80
Average	1.61 – 2.40	Average	44 – 64
Less valid	0.81 – 1.60	Less Practical	25 – 43
Not valid	< 0.80	Not Practical	0 – 24

The analysis of the Implementation of MBL-fb in the learning process is based on the score done by two oberver. The criteria of the model implementation [29] is shown in Table 2.

Table 2. The criteria of the implementation of MBL-fb in the learning process

The criteria	The Level of The Implementation	Criteria
Fully Accomplished	> 3.20	Very Practical
Mostly Accomplished	2.40 – 3.20	Practical
Partly Accomplished	1.61 – 2.40	average
Less Acomplished	0.81 – 1.60	Less practical
not Accomplished	< 0.80	Not Practical

To know the consistency level of both observers the percentages agreements was used by using Grinell formula [30].

$$\text{Percentages of agreements} = \frac{\text{Agreements (A)}}{\text{Disagreements (D) + Agreements (A)}} \times 100 \quad (1)$$

Agreements (A) refers to the fix of both observer. Disagreements (D) refers to the frequency of unsuitability two observer. The determination agreements was calculated under the terms of the agreement: if the difference in the assessment of 2 observers is equal to 0. Thus the agreement for the combinations (3,3), (2,2) and (1,1). While disagreement is referred a combination of 1 or more than 1, combination (3,2), (3,1) and (2,1). The criteria tingkat percentages of agreements is shown in Table 3.

Table 3. The criteria of percentage of agreements

Nilai	%	Kriteria
< 0.2	< 20	Poor Agreement
0.21 – 0.40	21 - 40	Fair Agreement
0.41 – 0.60	41 - 60	Moderate Agreement
0.61 – 0.80	61 - 80	Good Agreement
0.81 – 1.00	81-100	Very Good Agreement

4. Results and Discussion

The scoring on the MBL-fb validity for the five validator is presented at Table 4.

Table 4. Summary of validity MBL-fb from validator

NO	The Scoring Aspect	Validity	Category
1	The Book construction	3.9	high Valid
2	the Model Rationales	4	high Valid
3	The Supporting theories	3.67	high Valid
	1. Syntax	3.67	high Valid
	2. Social System	3.86	high Valid
	3. Principle Reaction	3.6	high Valid
	4. Supporting System	3.42	high Valid
	5. Instructional and Effect	3.3	high Valid
5	The Implimentation on the Instruction	3.5	high Valid
6	Lecture Book	3.51	high Valid
7	Student Book	3.63	high Valid

In Table 4 it can be seen that the validator assessment results are highly valid for all aspects. This means that book construction, rational model, supporting theory, structure model, implementation in learning, lecture book and student book validation level high valid.

Practicality testing is conducted on the implementation of MBL-fb in general biology learning. Implementation of models with its tools in learning is observed by 2 observers. Observation of implementation models was done at each session of lecturer and student activity, which was observed in two classes. The practicality of models device in the form of Lecturer Work Guide (lecturers book) and Student Working Guide (student book) is given by lecturers and students. A summary of the model's practicality test results is shown in Table 5.

Table 5. A summary of the model's practicality test results

No	Aspect	Class I	Class II	Average & %	kategori
1	Observasi implementation of model	Average implementation models		3.92	very practical
		Rata-rata Percentage of agreements		91.95	Very Good Agreement
2	Practicality of lecturers book			97.73	very practical
3	Practicality of student book	78.46	78.96	78.71	very practical

Based on Table 4, it can be stated that MBL-fb are very practical. The level of implementation of model was in a very practical kategori and percentages of agreements for each session are on Very Good Agreement criteria.

The effectiveness test of MBL-fb was obtained from students' perceptions. Student perception was obtained from questionnaire to 34 students. The summary of the students' perceptions can be seen in Table 6.

Table 6. The summary of the students' perceptions

No	The questions	%	Criteria
1	Comparing student-lecturer Interaction (the interaction quantity)		
	Other students in biology Class	80.59	Very efective
	Lecturer in biology class	78.82	Efective
2	Comparing student-lecturer Interaction (the interaction quality)		
	The students in biology class	86.47	Very effective
	Lecturer in biology class	84.12	Very effective
3	The steps in the classroom discussion and online on the facebook are easy to do.	73.53	Efective
4	The faculty gave some tolerant in applying the models by using internet net work	69.41	Efective
5	If I have change I will attend the clas by using model	72.35	Efective
6	Through online discussion, i can understand the lesson better	70.59	Efective
7	Through online discussion in facebook I can recognize more the resouces	79.41	Efective
8	This model improve my eagerness to learn dan the ability in expressing idea in spoken and writen	84.71	Very Effective
9	Comparing with other subject, the burden of the task in model	47.06	effective
10	In general, I like this model	73.53	Efective
11	the connection between online and class discussion in this model	82.35	Very effective
Average		75.61	Effective

Table 5 shows the percentage of answers for each question differently. However, most of the students' perceptions of MBL-fb are effective. The average percentage of student perceptions for each question was 75.61% (effective).

Based on the data analysis results it was found that MBL-fb already meet the validity, practicality, and effectivity on the model criteria. The validity of model was determined by the expert's judgment on the product. The aspects of validity can be seen from the following answers to the question [31]: (1) whether the learning model developed is based on the state-of-the art knowledge (content validity); and (2) whether the various components of related learning devices between one to another are consistent (construct validity).

The validation test results showed that blended learning model are very valid. Testing the validity of the content shows that the developed model is based on a strong theoretical rationale. The theory underlying the learning model has been described and discussed in depth. The validity of the construct indicates an internal consistency between the components of the model. This consistency means: (1) one component model does not lay with other components; (2) the syntax of the model influences the achievement of the model development objectives; (3) the social principles, reaction principles, and support systems developed have supported the implementation of learning syntax.

The practicality of this study refers to the level of practicality [32] "whether the model and tools are easy and usable for lecturers and students?". The result of the assessment on the model implementation level showed that MBL-fb was very practical, since most of the steps can be implemented in the learning. The response given by the lecturer at each discussion session affects the involvement of learners in the discussion [33-34]. The work book guidance and assessment provided by lecturers also encourage the participation of learners for discussion [35].

The model effectiveness in development research refers to the consistency of results with the goal [36]. The level of effectiveness was measured from the level of student achievement and the willingness to continue the done implementation of the program. Student response for more lectures with model is in effective category (72.35). The students' desire to go to college again with model is related to the benefits they learn. Most of the students more easily understand the material with the online discussion on facebook. This means that online discussion on facebook was effective (70.59) sint it also allows students to understand the material in general biology subject. This is because students are so diligent in reading, searching for sources of information relevant to the topic of the discussion, then they mutually vary and comment on the information in online discussions. MBL-fb also effectively increases the courage and ability of students in expressing opinions in spoken and writen. Social interaction and communication both verbally and in writing facilitate knowledge construction process [37-42]. Based on the average percentage of student perceptions for each question indicates that MBL-fb has met the criteria of an effective learning model.

5. Conclusion

Based on the results of the research and referring to the objectives of the study, it was concluded that the MBL-fb was valid by the valid, considered practical by the users (lecturers and students) beside proven effective because students had the desire to use this model, ease the understanding material in general biology lectures, and increased courage and ability to express opinions.

Based on the conclusion of the results, it is expected that MBL-fb is an alternative to be developed in various LPTK in the attemp of improving the quality of learning. For the lecturer, it improves the competence of prospective teachers. To realize this, it is necessary for the policy makers (leaders) to complete internet facilities for the smoothness of online lectures and to facilitate lecturers by organizing the required training. Finally, the further researchers will be motivated to develop this model that can meet the demands of each course and educational institution respectively.

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