The development of blended media learning through google classroom to support teaching and learning in IAIN Takengon

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Abstract. This research aims to acquire a decent and effective Google Classroom based blended learning medium to support the learning development at the State Institute of Islamic Religion (IAIN) Takengon. To develop the Google Classroom based blended learning, the writer applied 4D Development Model which consists of four stages. The four stages are the definition (define), the design stage, the developing stage and the development stage (disseminate). The results of the development activities are: (1) The learning medium of effective Google Classroom based blended learning and (2) the guided user book for lectures or teachers. The validation results of experts are known that the intervention in developing guide book of Google Classroom based blended learning can be declared valid or have a high level of content validity.

1. Introduction

The progress of information and communication technology is now taking place so rapidly and become a trend in learning. The use of technology in the learning process provides opportunities and chances for educators, teachers/lectures are able to improve and develop pedagogy in each occasions[1][2][3][4][5]. The use of technology in the learning is expected to provide solutions in overcoming learning problems in the class which might be caused by the suboptimal of teachers’ role in utilizing technology in education [6].

Blended learning is one of the learning alternative in using technology in education. Blended learning learning is not only a combination of direct teaching (face to face) and online teaching [7][8]. The blended learning approach helps teachers/lectures and students to create mutual understanding about important concepts with learning culture and provides an opportunity to strengthen them in a dynamic classroom atmosphere. Beside utilizing the convenience and the accessibility of online components with traditional classroom instruction. Blended learning also expands the curriculum without increasing program completion time [9].

Blended learning can be done everywhere and having the computer is not a priority during online learning. This system learning is called Learning Management System (LMS). LMS is learning management which is prepared for students and teachers in conducting learning through the software.
There are many LMS softwares that can be used such as: ACS, Blackboard, Cerpoint, Moodle, Edmodo, Canvas, and Google Classroom. Based on the preliminary study results on the types of LMS, it was found that Google Classroom is an application which is applicable in learning [10] [11] [12]. Besides the platform above, social media can be utilized in Blended Learning, such as: Facebook, Twitter and Instagram [13].

From the research results of Abdul Rozak dan Azkia Muharram Albantani obtained that the Arabic lecture has been done using Google Classroom media by six different non-language course classes. This research shows that this application can facilitate lectures and students in implementing the learning process in more depth. Google Classroom helps students to collect their assignments, and supports the lecturer to distribute assignments and assess assignments at home or elsewhere without bound time or lessons hours. This type of research is a qualitative study in the form of field research [14].

The use of Google Classroom actually simplifies the lectures to manage their learning and deliver the information precisely and accurately. Through blended learning, students feel comfortable and active in constructing their knowledge.

Some of the results of Google Classroom development research, Youtube integrated Google Classroom [15] and virtual class with Google Classroom [16]. This study to develop Google Classroom based blended learning in IAIN Takengon.

2. Methodology

This research is classified as research and development that produces specific products [17]. This study is developmental research and was conducted in IAIN Takengon. The subject of the study is two majors: English Education and Mathematics. There are 29 students of English who took the English Instructional Technology courses and 15 students of mathematic who took Space and Field Analytical Geometry of odd semester 2019/2020. The Learning Device development by Thiagarajan, Dorothy S. Semmel and Melvin I. Semmel which consists of four phases. These four stages are definition (define), the design stage, the development phase and the deployment stage (disseminate) [18].

3. Result and Discussion

The results obtained in each blended learning development process according to 4-D development model as follows:

A. Definition Stage Results

The results of each activity at the defining stage are displayed as follows.

1. Final preliminary analysis result. Based on the results of observation, discussion with lectures and researchers’ experiences as a lecture in the State Institute of Islamic Religion of Takengon, are known some problems.

2. Students analysis. Based on the analysis conducted on the students’ characteristic including academic ability and cognitive development, learning media is required in accordance with the student’s condition.

3. Analysis of concepts and specifications of learning objectives. The concept/material to be dealt with.

4. Analysis of Development needs. Identified several needs of the product to be developed, among others: (1) products are easily accessible by both lectures and students; (2) the product may include aspects such as evaluation and assessment and other activities in learning; and (3) the product is accompanied by usage guide and tutorial.

B. Design Phase Result

The result of each activity at the design stage is displayed as follows:

1. Creating the initial design of Blended Learning Media. In this activity has produced media of blended learning online and accessible on the Play Store.
2. Creating the initial design of Blended Learning usage guided Handbook. The focus of this guided handbook is how lecturer or a teacher can process and and manage the course he/she taught.

C. Result of Development Phase (Develope)

1. Result Validation of Blended Learning Media

The aspect assessed in validating the Google Classroom based blended learning is the software aspect and audio visual communication aspect. Below is a summary of the results of the validity and reliability of Google Classroom based blended learning.

| VALIDATOR I | |
|-------------|-------------|
| Weak Relevance (Rate 1) | Strong Relevance (Rate 2 and 3) |
| 0 | 0 |
| 0 | 13 |

Note:

RVI = 1
R = 1

The results of the analysis shows that the validity coefficient for the Google Classroom based blended learning was 1.00, which means that the intervention done in developing Google Classroom based blended learning can be declared valid or have a high level of content validity. The results of the analysis also shows that the realibility coefficient gained for Google Classroom based blended learning absed on expert assessment is 1.00 which means that it is realiable or has a hogh level of realibity. Altough the overall aspect has fulfilled the criteria of validity and Google Classroom based blended learning can be used generally but judged to be a slight revision. There are some suggestions from validators that need to be attented to get the perfection of blended learning. These suggestions are as follows:

| Validator | Suggestion |
|-----------|------------|
| Validator I | 1. The video making is preferably using the camera with good resolution to produce good image quality.  
2. The use of video in learning using Google Classroom requires great internet quota, hence the learning is preferable facilitated by Wifi network.  
3. Overall Google Classroom is great to use in learning. |
| Validator II | 1. Google Classroom is considered visible and effective in supporting the effectiveness and efficency of learning.  
2. Internet quota is required in large capacity when using video in Google Classroom utilization as learning medium. Therefore, the learning process is preferably supported by a good wifi facility.  
3. There should be different ranges in the assignment assessment according to the discipline of the task collection according the set schedule. |
2. Result of the validation Blended Learning Guide Book.
   The aspect assessed in validating the Google Classroom based on blended learning is the software aspect and audio visual communication aspect. Below is a summary of the results of the validity and reliability of Google Classroom based blended learning guide book.

| VALIDATOR I | Weak Relevance (Rate 1) | Strong Relevance (Rate 2 and 3) |
|-------------|------------------------|-------------------------------|
|             | 0                      | 0                             |
|             | 0                      | 4                             |

| VALIDATOR II | Weak Relevance (Rate 1)   | Strong Relevance (Rate 2 and 3) |
|--------------|----------------------------|---------------------------------|
|              | 0                          | 4                               |

Note:

RVI = 1
R = 1

Result analysis shows that the validity coefficient for Google Classroom based blended learning guide book is 1.00, which means that interventions performed in developing a Google Classroom based on blended learning guide book can be declared valid or have a high level of content validity. The results of the analysis also show that the reliability coefficient gained for Google Classroom based on blended learning guidebook is 1.00 based on expert assessment which means reliable or high levels of reliability.

Although the overall aspect has fulfilled the criteria of validity and generally, a Google Classroom based blended learning guide book can be used but is judged to be a slight revision.

D. Result of spread stage (Disseminate).

The result at the stage of the spread is the implementation of Blended Learning Workshop through Google Classroom. The workshop participants consisted of 10 lectures of IAIN Takengon and 10 students majoring in Tarbiyah as a prospective teacher.

From the result of the study, it obtained that students have a new experience in the learning, lectures have good preparation, students and lectures can discuss at any time. Thus Google Classroom based on blended learning can encourage the liveliness and creativity of students [19] [20].

4. Conclusion

This study aims to acquire a decent and effective Google Classroom based on blended learning media to support learning development at IAIN Takengon. Based on research objectives and research results that have been outlined, it can be concluded as follows

1. The results of the development activities are (1) the learning medium of Google Classroom based on blended learning and (2) the guided book for lectures and teacher.

2. The result of experts’ validation is known that interventions carried out in developing Google Classroom based on blended learning can be declared valid or have a high level of content validity. The results of the analysis also demonstrate the development Google Classroom based on blended learning is reliable or have a high degree of reliability.

3. The result of experts’ validation is known that the intervention carried out developing a Google Classroom based on blended learning can be declared valid or have a high level of content validity.
The results of the analysis also shows that the development of Google Classroom based on blended learning guided book is realiable or have a high level of realiability.

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