Blended Learning Development In Islamic Religious Education Lessons Make Use of Web and Android

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ABSTRACT

The study of Islamic religious education in the era of industrial revolution 4.0 requires teaching methods which involve the role of information and communication technology in order to produce the expected quality. students cannot participate in learning maximally which has an impact on the quality of learning.The independence of learning is the goal of this study because to be able to absorb the knowledge of Islamic education it requires a great deal of motivation both theory and practice. Blended learning is a learning model which combines study in the classroom transitional which combines conventional learning with e-learning while increasing student independence. In its implementation, blended learning allows students to get explanations from lecturers in class, then proceed with collaboration in groups and present assignments online by video conference presentations made separately by each group member. The video then uploaded to the e-learning system by group members and it can be seen online by the class participants according to the lesson schedule, to be given a score and description of the presentation to each group member online. Blended learning represents new method to create learning experiences that can provide the right learning at the right time and in the right place for each and every individual and bringing groups of learners together through different cultures.

1. INTRODUCTION

Islamic education in the college is a basic subject that aims to provide an understanding of Islamic values that students must have in their lives. Furthermore, with the study of Islamic religious education students are expected to be able to practice the values of Islamic teachings in all dimensions of life which include dimensions of worship (mahdhah) and muamalah dimensions such as education, agriculture, economics, politics, social culture and society, family, and others. so as to create an atmosphere of life that is safe, peaceful, and full of love. In practice, students often find difficulties in finding examples of applications from various dimensions. The reason are that students only depend on lecturers' explanations so that they are unable to develop the knowledge received and apply, students only have a little time to discuss in study groups and still using manual books.

According to Zumbrunn teachers/lecturers are expected to carry out a learning process that can facilitate their students to have learning independence. In this case,

the lecturer is expected to design learning strategy which can make the students become more independent in learning (Zumbrunn, 2011). According to Association for Educational Communications And Technology (AECT) Educational technology is the study and ethical practice of facilitating learning and improving performance by creating, using, and managing appropriate technological processes and resources (AECT, 2004). Therefore, a blended learning method which is able to provide explanations as well as concrete actions that can become an example for students to understand is needed. Blended Learning is a learning which combines face to face learning and electronic learning (e-learning) (Torrao, 2007). Blended learning allows students to obtain up-to-date teaching materials, supervision of mastery of material mastered by students in face-to-face and online learning, effectiveness and efficiency of learning because of using information and communication technology media (Bersin Josh, 2004). Technology based learning methods are needed to improve student learning activities and outcomes which eventually

produced by students who are independent, intelligent, creative and animating Islamic values. Learning media can be a practice devices related to the material being taught and information technology media. Information technology media can stimulate independent learning, provide information on the development of science and can also provide information needed for the smooth learning process as well as stimulating the activity of students.

1.1 Theori Things And Regulation

According to the Minister of Education and Culture Article 103 of 2014 concerning learning "The learning method as referred to in paragraph (2) is a method or technique used by educators to handle a learning activity that includes lecturers, questions and answers, discussions, and others (Minister of Education and Culture Regulation,2014). Based on Minister of Education and Culture Regulation no.49 of 2014 concerning the National Standards for Higher Education, the Study Program is required to produce graduates who meet the minimum standards in the qualifications of the IQF (Indonesian Qualification Framework) (Minister of Education and Culture Regulation,2014). The approach used in the IQF is Student Central Learning (SCL) which applies learning by prioritizing development of students' creativity, capacity, personality, and students' needs, also develops independence in finding and discovering knowledge (Minister of Research and Technology Regulation, 2017).

The application of SCL can use several types of learning methods such as Small Group Discussion, Role-Play & Simulation, Case Study, Discovery Learning (DL) and Self-Directed Learning (SDL), Cooperative Learning (CL), Collaborative Learning (CbL), Project Based Learning (PjBL) and Problem Based Learning and Inquiry (PBL). This is similar with the opinion of Thorne stating that e-learning is a learning presented through a variety of ways, one of it is an online learning program that combines activities and information similar to distance learning (Thorne, 2003). An example of using the web as a learning media is the use of a learning management system (LMS) in the form of moodle. Blended learning can use multimedia technology, streaming CD ROM videos, virtual classrooms,voicemail, e-mail and conference calls,online text animation and video streaming are tools to integrate traditional & online learning (Thorne, Kaye, 2003). Roberts finds the field of computer-supported collaborative learning (or CSCL) is the attempt to bridge the gap between interaction and learning, and stands as a paradigm of learning (Robert, 2004).

1.1.1 E-Learning

The first experiment was arranged in randomized complete experimental design with one factor which had four replications. Level of treatments was using distilled water,

E-learning is all forms of learning activities that utilize

electronic media to learn according to Gilbert & Jones (Gilbert, *et al*, 2001). E-learning is also called Web-based learning, online learning, distributed learning, computer-assisted instruction, or Internet-based learning. Computer assisted instruction (also called computer-based learning and computer based training) uses computers to aid in the delivery of stand-alone multimedia packages consist of text, graphics, animation, audio, or video, to produce engaging content that learners access via computer for learning and teaching (Olojo Oludare Jethro, *et al*, 2012). According to the opinion above, it can be concluded that e-learning is a learning method using electronic and internet media. The learner's activity determined learning behavior patterns of the learner. Learning behavior patterns filled the triple-factor parameter that consist of learning style category, level of motivation, and knowledge ability (Nungki Selviandro, *et al*, 2014). Driscoll sees blended learning primarily as an strategy to help starting e-learning in organisations: "Blended learning allows organizations to gradually move learners from traditional classrooms to e-learning in small steps making change easier to accept."(Driscoll, 2002).
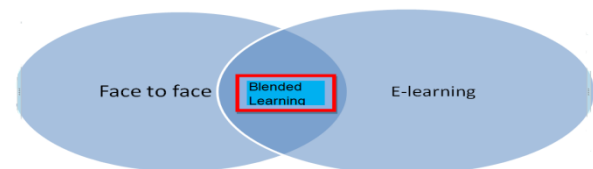

Figure 1. Blended Learning Position

1.1.2 Blended Learning

Blended learning method is represents an opportunity to integrate the innovative and technological advances offered by online learning with the interaction and participation offered in the best of traditional learning (Thorne, 2003). Uwes A.Chaeruman explained that Blended learning as learning which combines synchronous and asynchronous learning setting in an appropriate way to achieve learning goals (Uwes A. Chaeruman, 2011). It means Blended Learning is a learning done face to face combined with information media to support its success. The effect of blended learning on motivation to learn and student learning outcomes shows that: there is an increase in motivation and learning outcomes between students taught using blended learning and students taught using the conventional methods. According to Carman there is five keys to do the blended learning, they are; (1) Live Event, direct learning or face-to-face; (2) Self-Paced Learning, which combines with independence learning that allows participants to study anytime and anywhere online; (3) Collaboration, conducting collaborations, namely both teacher collaboration and collaboration among learning participants; (4) Assessment, assessment is a feedback on the learning process; (5) Performance Support Materials, make sure the material can accessed by students both offline and online (Carman, *et al,* 2009). Blended learning is

not only a method of reducing faculty time or re-focusing student time but also a way to admit more students to an academic program (Cottrell,et al, 2003). Roberts stresses how 'blended learning' has come into fashion as a supplement to existing traditional lectures and tutorials by enabling external students to learn efficiently (Robert,2004). Gynther finds that the term blended learning does not only regard the blend between technological and traditional classroom teaching but also regards the matter of what to learn and what pedagogical method and what kind of technology that promotes learning and different forms of knowledge are used in teaching. It is important to find technological solutions that support different didactical choices(Gynther,et al, 2005).

1.1.3 Web

Web is a series of pages that one progressively navigates through (Lopuck 2013). Web is a collection of hypertext pages that offer information and links on trillions of pages(Guffey,et al,2013). Web search engine is a tool that produces search results based on the user given query. World Wide Web (WWW) is a huge reservoir of Web-pages. Search engine crawler crawls down the Web-pages from WWW and creates a database of Web resources for the search engine(C. H. Yu, 2008). According to Irwansyah "web is a collection of pages that provide information. Web browsing is the web browser used to open a web page. Now, there are many web browsers that can be used to browse in cyberspace such as google chrome, safari, Mozilla firefox, opera, and others(Irwansyah, 2013).

1.1.4 Android

Android is a mobile operating system developed by Google. It is based on a modified version of the Linux kernel and other open source software, and is designed primarily for touchscreen mobile devices such as smartphones and tablets (Android Wikipedia,2019). Android is such an operating system for low powered devices that run on battery and are full of hardware like Global Positioning System (GPS) receivers, cameras, light and orientation sensors, Wi-Fi and UMTS (3G telephony) connectivity and a touch screen. Like all operating systems, Android enables applications to make use of the hardware features through abstraction and provide a defined environment for applications (Ahmed sibly, 2016).

2. METHODS

The method used in building the system uses web and android-based technology, while the learning method uses blended learning based on cooperative learning which includes: Data Collection Methods, System Development Methods, System Cooperative Learning Architecture, data collection techniques for system development, and user interface development (user interface). In some studies using qualitative methods, can be explained the approach used, the process of gathering and analyzing information, and the process of concluding the result of the study.

2.1 Method of Collecting Data

The first step is for researcher to carry out data collection activities through a survey approach. In order to find out the learning system used on campus nowadays, the technique of collecting data is by interviews and documentary studies. Based on the data collected, there have been found several problems 1. Practicing the theories that have been explained 2. Bored because of the time needed to explain the lessons in the class for too long and repetitive. 3. Students only hear the explanation from the teacher.

The second step is the researchers conducted a survey on campus in order to find out the application of teacher oriented used on campus nowadays, does the result satisfying? Does the effectiveness and efficiency high? Based on the second step data, an e-learning system will be designed and implemented with the blended learning method.

At the third step, researchers carry out activities on campus through a survey approach in order to find out the application of e-learning used on campus nowadays, are they still using manual books or technology-based information media? Based on the third step data, a web-based and smart phone cooperative method of the cooperative method on the campus will be designed and implemented on the campus. The strategy of this research activity will be carried out with a mechanism as shown in the following fishbone diagram:
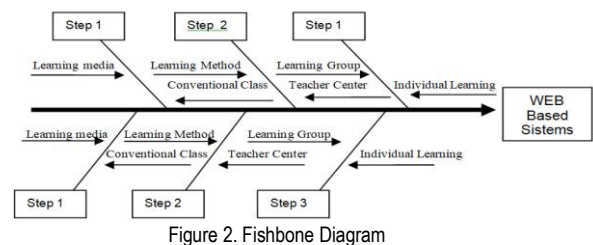

Figure 2. Fishbone Diagram

2.2 Blended Learning Based Web And Android Architecture

Blended learning begins with an explanations from the lecturer in the class (teacher oriented) then the lecturer gives the assignment through available web. Students can download the assignment from lecturer through web using a cellular. Furthermore, students work in group outside the class, the processes and the results can be uploaded via an Android-based cellular mobile phone connected to the campus web. Students can present their assignment through web in class and witnessed by the lecturer. Students will use smart phones, iPads, and laptop computers to read and annotate while viewing recorded lectures or when taking part in online discussion forums with their peers. Blended learning Architecture can be seen in the picture below:

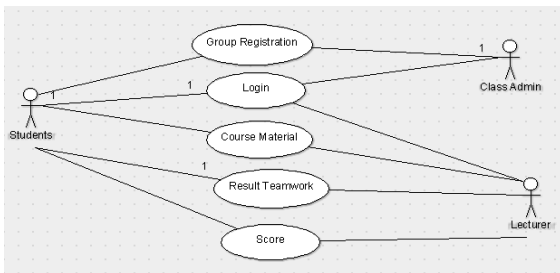Figure 3. Blended Learning Based Web And Android Architecture

a.   Use Case Model

Figure 4.Use case diagram
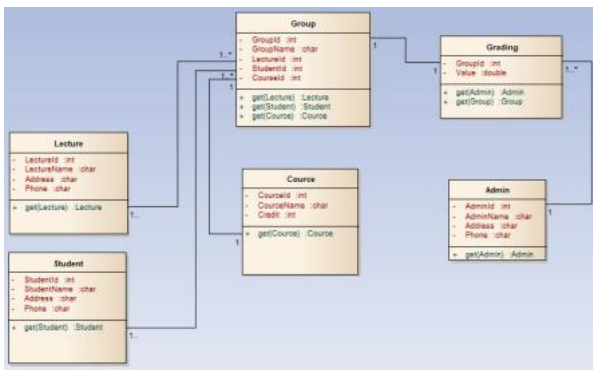
b.   Class Diagram

Figure 5. Class diagram

3. RESULTS AND DISCUSSION

Based on the architecture above, the design of the display is made so it is easier for users to use the system to be developed. The e-Lecture application is designed to have two different views for lecturers and students. The design of the web application interface includes.

3.1 Web Display

a. Dashboard display

The function is for the initial display as well as the web menu.Students and lecture can choose one of several menus that are displayed.

Figure 6. Dashboard E-Learning

b.   Students Login

The function is to open the web in class, students must be logged in to protect data from unauthorized users
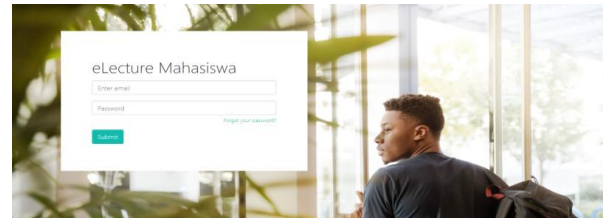

Figure 7. Student Login

c.   Lecture Login

The function is to open the web in class,teacher must be logged in to protect data from unauthorized users
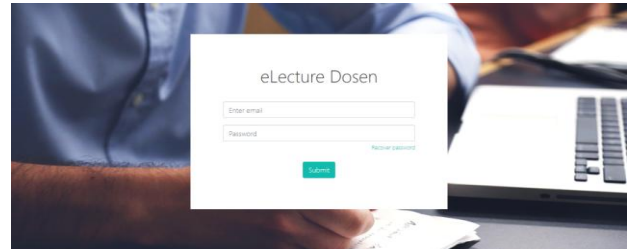

Figure 8. Lecture Login

d.   Group Presentation

This page to display the results of group work that has been uploaded via android for presentation in class.Students can open web to present before
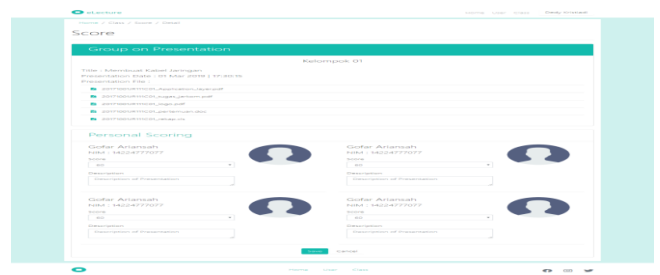

Figure 9. Group Presentation

e.   Score

This page is for input the value of the presentation results by the lecturer after the student presentation.

Figure 10. Score

3.2 Android Display

a. Dashboard display

The function is for the initial display as well as the Android menu. Students and lecture can choose one of several menus that are displayed

Figure 11. Dashboard display by android

b. Student's login

The function is to open the android application, students must be logged in to protect data from unauthorized users. After this application is open, students can then take and upload pictures or videos from the group work done outside the classroom

Figure 12. student's login

c. Group Presentation

Students can take videos of the group discussion process through the group presentation and Students will use smart phones to read and annotate while viewing recorded lectures or when taking part in online discussion forums with their peers.

Figure 13. Group Presentation

d. Group Score

Students can see the value of the presentation through the group score page

Figure 14. Group's score

4. CONCLUSION

The description above shows that blended learning that combines teacher orientation with study groups outside the classroom using information and communication technology can help students' independence. Blended learning is not a new approach in teaching and learning at universities. Components involved in it can be in the form of information technology can make a major contribution to produce good quality. Face-to-face learning will be more effective if it is balanced with group work with technological support to create quality and independent learning. Blended learning combines various learning media while providing 'color' to the learning culture. However,blended learning process must be explained in a structured manner starting from the stages of learning and assessment. It aims to provide an understanding of the usefulness of telecommunications equipment in the learning process while providing understanding to parents and universities

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