

Implementation of Islamic Education Study Program Learning Based on Blended Learning in the Industrial Era 4.0 at IAIN Samarinda

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Abstract

The purpose of this study is to describe 1) how the implementation of blended learning at the State Islamic Institute of Samarinda (IAIN Samarinda), and 2) how students respond to the implementation of blended learning. The research subjects were students in the Islamic Religious Education program at Faculty of Tarbiyah and Teacher Training IAIN Samarinda East Kalimantan. The method used was a descriptive qualitative research approach. The technique used observation, interview, and questionnaire instruments. The subjects were 32 students of Islamic Religious Education Program at FTIK IAIN Samarinda. The data analysis was carried out with the model of Miles & Huberman, namely in three steps: data reduction, display and conclusion drawing. The results of this study indicated that 1) students and lecturers are actively involved in the face-to-face learning process and online activities on the e-learning website. These results indicated that a positive potential for education with blended learning innovation is implemented at public Islamic higher education such as IAIN Samarinda.

Keywords: blended learning, Islamic religious education, revolution era 4.0

A. Introduction

The development of digital technology has entered the industrial era of 4.0. This era is accompanied by a digital era that has made fundamental changes to the evolution of technology that targets a gap in all human life. Its scope is very broad, so it has reached the realm of the field of education. The industrial revolution 4.0 has characteristics that combine human and computer development or it is called a digital era. According to Fauzan (2018), the industrial revolution 4.0 has characteristics that combine human and computer development. The implication on education has created several applications that are claimed as tools in the learning process of the industrial era 4.0, such as *Google Class*, *Edmodo*, *Sevima*, *Moodle*, *E-learning*. This application can be used by lecturers in the latest learning with the use of technology. The global demand instructed that the realm of education to immediately follow the trend of digital development as a manifestation in improving the quality of education.

The quality of education in the future will depend on the development of science and technology (Holmes & Gardner, 2006). Technology is developing very rapidly with the presence of the internet network and the creation of applications such as *world wide web* (www) so as to enable collaborative activities between internet users to search for information and then share on the social media world without time and place limits (Nada & Ritland, 2005). The 21st-century learning has been based on information technology so that from a global perspective it will be an element of modern education, educators, students, parents, and educational institutions are required to be adaptive in responding to it. That development also brought changes to the learning styles of students at the school level to the learning styles of students at higher education.

In higher education, there is an interesting phenomenon regarding student learning styles, so it is referred to as digital native by some researchers. Prensky (2001) defined in his research that the designation of digital native is because his learning style has used the navigation tool website by searching for hyperlink to reach certain destinations in front of a computer or laptop screen, this group is trying to instantly download free content, watch website via smartphone, laptop or computer instead of doing via television. Another case said by Priyatni, et al, (2017) that students are currently in the generation Z. Generation Z means people who are born and grow with technology, use it as a communication interaction. For generation Z, the learning process also needs more academic skills than traditional learning, technology-savvy, collaborative, communicative with friends, critical, creative skilled, so that they can solve their own problems. Globalization is increasingly opening competition between nations, in terms of the quality of its human resources, of course, it is also determined by the quality of its formal education with the country's national education system (Hie, 2014).

This rapid change is a challenge for higher education institutions, including Islamic institutions, to produce quality human resources such as lecturers. Harto (2018) in his research looked at lecturers at Islamic Religious Colleges (PTKI) as having much greater challenges in the era of the industrial revolution 4.0, so it was expected to have 4 competencies namely knowing digital use and its application, leadership competency in technological understanding, the ability to predict the direction of educational turmoil and be able to bring up ideas, innovation, and creativity as an effort to realize the quality of education.

In addition, creating superior students is also one of the tasks of lecturers and the mission of higher education. In accordance with the times, there has been a phenomenon of changes in student learning styles that are influenced by the disruptive era. As a result, students in Generation Z, prefer online media directly, be it chat, social media, and blogs and whatsapp as practical media today. These interactions make it easier to collaborate, make agreements, and build learning while still connected with the internet. Therefore Masitoh (2018) said that blended learning is a solution to prepare for the golden generation of Indonesia in 2045.

According to Koohang (2009) "blended learning is defined as a mix of traditional face-to-face instruction and e-learning". What is needed for this mixed learning varies depending on different views (Whitelock & Jeffs, 2003). The concept of blended learning emphasis is on the use of the internet, so that common elements including a combination of face-to-face sessions and the use of technology (Kerres & Witt, 2003). Blended Learning is a complete combination of the various resources online and also face-face in the learning process (Stacey & Gerbic, 2007). Blended learning can be applied with a combination of face-to-face systems with computer media as instructions (Graham, 2005).

Some research on blended learning agrees that there are some positive results and advantages when implementing the model in institutional programs and in the classroom. Several studies mention that blended learning as a learning model that has many advantages that were successfully applied because of the impact that the learning process is more effective (Effendi, 2015; Makhdoom et al., 2013), more practical (Haron, et al, 2012; Nabilah, 2015), strengthen conventional learning (Amin, 2017), learning more open and flexible (Purnomo, et al, 2016), problem solving learning (Dwiyoogo, 2015), learning cognitive (Bibi & Jati, 2015; Budiharti, et al, 2015; Bibi & Jati, 2015), learning independence (Sandi, 2012), constructivist learning (Kirna, 2014), and affective learning and psychomotor (Puspitasari, 2016), blended learning is better than conventional learning (Hamad, 2015), skill learning increases (Chen et al., 2017), learning is more integrated and learning is easier between students by utilizing the learning environment (Crawford & Jenkins, 2017; Mestan, 2018; Hussin, et al, 2015), increased student interest in learning (Mazloumiyan, et al, 2012), prospects for efficient future learning (Medina,

2018), learning by overcoming problems in learning and communication skills (Buran & Evseeva, 2015). Thus according to the research of Zhao, et al, (2005) that to realize successful and powerful mixed learning, it must have four factors, namely 1) institutional factors, 2) educator factors, 3) learners and 4) pedagogical considerations and technology. Blend learning became one of the concrete solutions in the midst of the development of information technology and the inclusion of the industrial era 4.0 in higher education.

Islamic religious institution especially in IAIN Samarinda as an organizer of Islamic education, have now begun to develop e-learning LMS Moodle. Lecturers of IAIN Samarinda are expected to be ready to use e-learning as a learning process online. Lecturers will be the main actors of this learning process to be more innovative and creative in the use of technology. Learning through e-learning as part of blended learning needs to be explored more deeply as online learning activities, such as online discussion forums and student assignments. Surely this activity will facilitate students to get teaching materials online through learning resources anywhere and anytime. Some lecturers have actually used various media online in the learning process, but it has not been maximized. Therefore, the implementation of blended learning needs to be applied in the class at the Islamic Education Study Program Faculty of Tarbiyah and Teacher Training IAIN Samarinda in order to be able to prove empirically how blended learning can be implemented in learning and how students respond to the implementation of the blended learning. For this reason, this study aims to describe 2 problem formulations, namely 1) how the implementation of the blended learning is implemented in the classroom at the Islamic Religious Education Program of the Tarbiyah and Teacher Training Faculty IAIN Samarinda, and 2) how students respond to implementation of blended learning.

B. Literature Review

1. Islamic Religious Education

Islamic education has a long history to this day. Islamic education has taken place since the Prophet Muhammad PBUH. appointed as a Prophet in Mecca. Today's education is a prototype that is continuously being developed by Muslims for the benefit of education from time to time. In the broadest sense, Islamic education developed along with the emergence of Islam itself (Azra, 1999). Islamic Religious Education is an effort in the form of guidance and care for students so that after completion of their education can understand and practice (Daradjat, 2011). Islamic Education according to Muhaimin that there is basically two, namely: first, Islamic education is an education system that is deliberately held or established with a desire and intention to embody Islamic teachings and values. Islamic Religious Education is developed and encouraged or imbued with Islamic teachings and values. In this sense include; 1) educator / teacher / lecturer, madrasah / school head or leader of higher education or other education staff; 2)

educational institutions and their components, such as objectives, teaching materials/materials, facilities and infrastructure, tools/media, learning resources, methods, environment, management which is characterized by Islam (Muhaimin, et. al., 2004).

2. Blended Learning

According to Garrison and Vaughan (2008) that blended learning as a new approach is a mixture of classrooms/face-to-face and online activities that are consistent with specific objectives, the proportion of face-to-face and online learning activities can vary greatly. Bersin (2004) also gives the definition of "blended learning is traditional learning that is equipped with electronic media/technology media". Likewise, Thorne (2003) " blended learning is an integration of innovative advances and technologies offered for online learning with traditional learning interactions and participation". According to Debra dan Bourke (2010) that blended learning about effectively integrating ICT into learning design to improve teaching and learning experiences for students and teachers by enabling them to engage in ways that are not normally available or effective in their usual environment, whether it is mainly face-to-face or distance mode.

C. Research Methodology

The method used was a descriptive qualitative research approach. This research was located in Islamic Education Study FTIK IAIN Samarinda in East Kalimantan in the 2019/2020 academic year. The subjects were lecturers of Islamic Education Study teaching material development course and 32 students of Islamic Education Study FTIK IAIN Samarinda who took Islamic Education Study teaching material development course in the academic year 2019/2020. The instruments used were observation, interview, and questionnaire. The data to be collected is adjusted to the object of study, namely 1) implementation of blended learning through observation and interviews and 2) students' perceptions of learning blended learning through the questionnaire online. The collected data were analyzed descriptively. The questionnaire instrument was calculated using a Likert scale with SPSS v25, resulting in invalid data. Analysis of the data uses models from Miles, Huberman and Saldana, namely analyzing data with three steps: data condensation, presentation of data, and drawing conclusions (Miles & Huberman, 1994).

D. Finding and Discussion

1. Implementation of Blended Learning

Technological developments in the industrial era 4.0 also influenced universities to improve the quality of learning. Of course, the supporters are not only institute institutions, but also human resources who are skilled in technology and adequate facilities as a manifestation of the quality of a higher education. With the rise of higher education

that has implemented online learning or e-learning, there are already some who have implemented mixed learning or blended learning as a solution to the current learning strategies. So the researcher took the initiative to conduct learning by applying the blended learning model even though it is still very new at IAIN Samarinda. The researcher applied blended learning to one of the study programs namely Islamic Religious Education FTIK IAIN Samarinda with courses in the development of Islamic Education Study teaching materials as learning contracts. This Islamic Education Study teaching material development course has a credit load of 3, and was chosen as a trial material in the implementation of blended learning with the desired target is effective learning. In the application of blended learning, the syntax was made every time a class meeting. The syntax contained practical steps that must be carried out by the lecturer in applying the blended learning process. In syntax, the formulation of learning objectives was made together. The blended learning process was implemented by combining face-to-face learning (conventional), offline and also online with e-learning tools IAIN Samarinda namely <https://elearning.iain-samarinda.ac.id> at one meeting time. Divide it into several stages, i.e. the face-to-face phase of 1-hour duration, then 1 hour later with the online meeting and the last 30 minutes is to be held face-to-face again in class. Lecturers and students first make an agreement in the formulation of learning objectives in the face-to-face session and in the online session, must enter the web that has been provided on <https://elearning.iain-samarinda.ac.id>. to be able to carry out online discussions and online assignments. Details of the implementation of blended learning in the course of developing Islamic Education Study teaching materials are as follows:

a. Face to face Lecture

This stage, the lecture activities are applied in the Islamic Education Study 4 FTIK IAIN Samarinda classroom. The lecture activity discusses the understanding of material and basic concepts in the development of Islamic Education Study teaching materials. The lecturer starts the lecture by providing motivation and formulating learning objectives simultaneously with students, this is done to get feedback from students in order to have the learning objectives to be achieved in the material.

Face-to-face lectures are conducted by asking questions as stimulants about Islamic Education Study teaching materials. Students are also given some material to discuss with other friends, after that it will be presented in class and later in the virtual class with the online discussion forum. Within the predetermined time duration of 3 SKS, the Lesson Plan (RPS) has been given a time of 1, 5 hours for face to face i.e 1 hour at the beginning of the lecture and 30 minutes at the end of the lecture. This face-to-face lecture activity is maximized providing material offline in the form of powerpoint, word and also video learning. In this activity students look active and enthusiastic in class discussions,

both the first hour and the last 30 minutes as a reflection after the online discussion forum in LMS e-learning IAIN Samarinda.

b. Online Lectures

Lecturing activities at this stage are carried out online by utilizing e-learning IAIN Samarinda at <https://elearning.iain-samarinda.ac.id>. The lecturer has instructed students to enter the LMS that has been provided for maximum use. E-learning Samarinda IAIN has been integrated into the Siakad system and e-journal lectures so that the database has been made as a student who will later be seen in the system e-learning what courses are followed and also the name of the lecturer has been seen in the tools. Previous lecturer has made teaching materials and included some teaching materials and instructions in <https://elearning.iain-samarinda.ac.id>:



Figure 1. Web Display of E-learning IAIN Samarinda

In this online lecture, lecturers and students must be active. Lecturing is conducted online with a synchronous strategy for one meeting. After that, students are instructed to enter online and click the course that is ready to be followed online. Students should directly listen to the teaching material or instruction in e-learning which has been previously can in the face of the time. The appearance of e-learning as follows:

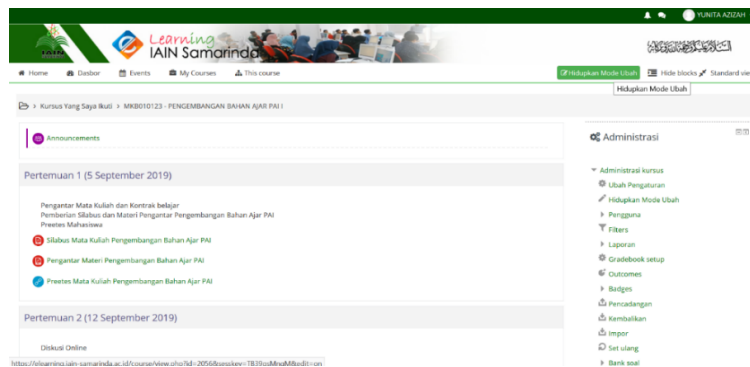


Figure 2. Display of materials and courses at E-learning

In an online lecture, lecturers and students actively discuss them, not necessarily in one class, but can be anywhere, but must be at one time. During the online lecture, it is conducted within 1 hour and is very active. Besides lecturers and students should be active and understand using the facility E-learning, there are some fundamental obstacles in this discussion forum online. Here are examples of web views when forums are implemented:

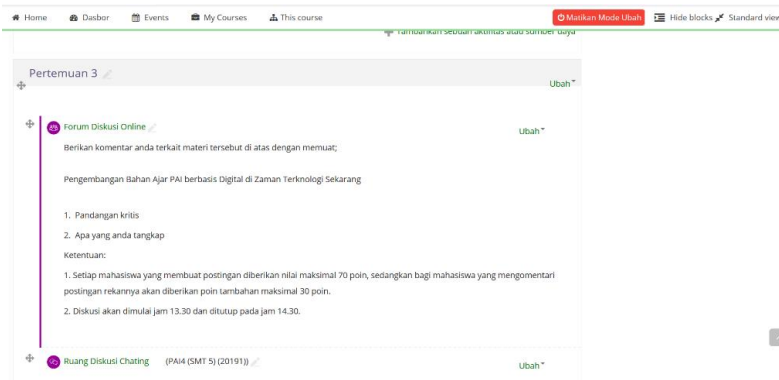


Figure 3. Display of Online Discussion

In addition to active online discussions, there are some obstacles posed in this online learning process. Among these constraints is the student still confused about the instruction given the lecturer so that it is not fully running smoothly. In addition, another obstacle is the limited network connection of some students so that making online discussions is practically only a part of the student. Another obstacle is that students still use their Android HP in discussions. In fact, for online discussions, it is conducted via e-learning. This should use a Laptop or PC device to be maximal in interacting virtually.

2. Responses of students

The data of the students' response results gave a positive response to the implementation of blended learning which has been implemented 3 times the meeting in the class. The aspects that students responded include the intensity, satisfaction, and effectiveness of the application of blended learning. The table as follows:

Table 1. Student response to the implementation of blended learning IAIN Samarinda

No	Aspect assessed	Scale
1	Intensity of students interactions	Increased
2	Intensity of students activity with lecturer	Increased
3	Intensity of students communication with lecturers	Increased
4	Quality of students interaction	Qualified
5	Quality of students activity with lecturer	Qualified
6	Quality of students communication with lecturers	Qualified
7	Effectiveness, ease in understanding/achieving learning Objectives	Effective

The table above explains that the implementation of blended learning on the course of development of Islamic Education Study teaching materials can be received positively by students. Students as a whole gives a positive response after the learning process using the method of Blended Learning. Students are given a different way from the learning process that was previously only with face-to-face, but can already interact with online in learning. Students are given a different way from the learning process that was previously only with face-to-face, but can already interact with online in learning. Students in this mixed learning can discuss each other at any time. Online discussions can be done when students are in a class or library, or at home with a synchronous virtual system with a lecturer. The study of blended was done by formulating a common goal at the time of face to face, and then giving instructions to students for learning online with the tools LMS e-learning.iain-samarinda.ac.id.

Here is a brief explanation of student response using SPSS v.25 application to the implementation of blended learning on the course of development of Islamic Education Study teaching materials in the FTIK IAIN Samarinda Islamic Education Study Prodi, involving 32 students as follows:

Table 2. Intensity of students interactions

Category	Frequency	Percent	Valid Percent	Cumulative Percent
Less Intercative	1	3.1	3.1	3.1
Interactive	21	65.6	65.6	68.8
Very Intercative	10	31.3	31.3	100.0
Total	32	100.0	100.0	

In table 2 above showed that the application of blended learning on the course of development of Islamic Education Study teaching materials was well-received by 32 students with an average value of 65.6% which stated increased, while 25% expressed greatly increased Interaction between students. Students responded positively and tended to increase the intensity of interaction between students. Interactions occur both in the course of performing lectures when face to face in class or online outside the classroom. All students were intensely listening to the Islamic Education Study material delivered by lecturers. When instructed for discussions both in the class (face to face) and outside of class (online), everything looks interactively with each other providing feedback. Results of the study of Effendi (2015) mentioned that blended Learning more interactive when performed on higher education courses.

Table 3. Intensity of student activity with the lecturer

Category	Frequency	Percent	Valid Percent	Cumulative Percent
Less Active	5	15.6	15.6	15.6
Active	19	59.4	59.4	75.0

Very Active	8	25.0	25.0	100.0
Total	32	100.0	100.0	

In table 3 above, interactions related to the activation of students tend to increase with a percentage of 59.4% of the 19 respondents answered actively, while answering very active 8 respondents about 25%, and who answered less active only 5 respondents with a percentage of 15.6%. It also showed that the student was able to use the device both laptop and media E-Learning on the concept of learning based on Blended Learning that was being applied by the lecturer. Students followed the instruction from lecturers so that the discussion, both face-to-face, and discussion online was carried out well. Although sometimes there was a problem with the network WiFi which was still not stable but did not break the motivation of students while learning. According to Amin (2017) in his research mentioned that the application of the model blended Learning can improve the learning outcomes and motivation of learners. In line with Handaru (2015) concludes that blended learning provides motivation and level of understanding in students.

Table 4. Intensity of student communication with lecturers

Category	Frequency	Percent	Valid Percent	Cumulative Percent
Not Communicative	1	3.1	3.1	3.1
Less Communicative	5	15.6	15.6	18.8
Communicative	16	50.0	50.0	68.8
Very Communicative	10	31.3	31.3	100.0
Total	32	100.0	100.0	

In table 4, it showed that the intensity of students' communication with the lecturers increase. It is proven by the student response by giving 10 respondents expressed a very communicative of 31.3%, then on communicative answers with 16 respondents of 50%, while stating less communicative is 5 people with percentage of 15.6%. The research analysis showed that the answer had already represented that the application of blended learning runs smoothly with the communication between students and lecturers. In following the process of learning both face-to-face or online, students appeared active in asking questions, as well as providing feedback on the material discussed. The only problem is that during the discussion online, is still not maximized because of the problem of students' insight in studying and sometimes slow in response when entering the discussion online. This data is in accordance with the research password Sandi (2015) which concludes that the influence of blended learning is very significant for students' learning outcomes and self-reliance in communication between students and lecturers. Not only does it increase in communication, according to Budiharti et al, (2015) that blended learning will improve cognitive ability in students.

Table 5. Quality of interaction between students

Category	Frequency	Percent	Valid Percent	Cumulative Percent
Less Qualified	5	15.6	15.6	15.6
Qualified	22	68.8	68.8	84.4
Very Qualified	5	15.6	15.6	100.0
Total	32	100.0	100.0	

In table 5, it showed the results of increasing the quality of interaction between students. From the existing data, it is seen that 22 respondents mentioned that already qualified or 68.8%, stating that there are very high quality 5 respondents with 15.6% processing while stating less qualified only 5 respondents with 15.6%. These results give an overview that the application of blended Learning has a quality for students, let alone the current student is known students of Generation Z or millennial. As the results of Purnomo et al, (2016) mentioned that blended learning is already very suitable implemented on the generation of Z or students today.

Table 6. Quality of students activity with lecturer

Category	Frequency	Percent	Valid Percent	Cumulative Percent
Not Qualified	1	3.1	3.1	3.1
Less Qualified	3	9.4	9.4	12.5
Qualified	20	62.5	62.5	75.0
Very Qualified	8	25.0	25.0	100.0
Total	32	100.0	100.0	

Table 6, showed the quality of inactivity between students with lecturers increased by 20 respondents or 62.5% at the time of application blended Learning. Students also respond to a high quality of 8 respondents or a 25% percentage, while answering less qualified 3 respondents with 9.4% percentage. This result gives an idea that at the time of application of blended Learning, students and lecturers are active in the learning process, not only at face-to-face but also appear to be active at the discussion time online. As Hamad's research (2015) mentioned that blended learning is better than conventional learning, students will become more active.

Table 7. Intensity of student communication with lecturers

Category	Frequency	Percent	Valid Percent	Cumulative Percent
Not Qualified	1	3.1	3.1	3.1
Less Qualified	9	28.1	28.1	31.3
Qualified	12	37.5	37.5	68.8
Very Qualified	10	31.3	31.3	100.0

Total	32	100.0	100.0
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In table 7, showed that the intensity of students ' communication with the lecturers is increasing It is seen from the results of data of 10 respondents or 31.3% stating the very quality of communication that was built during the learning process. Then 12 respondents or 37.5% expressed communication quality between lecturers and students. Meanwhile stating less qualified only 9 respondents with a procedure of 28.1%. This result data gives the idea that the communication built on the application of blended learning has been improved and is expected to provide motivation for students. In line with the opinions of Euis and Ratna, (2016) that blended learning can improve communication and increase the 3 aspects i.e. cognitive, affective and psychomotor.

Table 8. Effectiveness, ease in understanding/achieving learning Objectives

Category	Frequency	Percent	Valid Percent	Cumulative Percent
Less Effective	1	3.1	3.1	3.1
Effective	25	78.1	78.1	81.3
Very Effective	6	18.8	18.8	100.0
Total	32	100.0	100.0	

In table 8 indicated that the implementation of blended learning in the FTIK IAIN Samarinda Islamic Education Study is effective. Data that was successfully analyzed was that there were 25 respondents or 78.1% expressed effectively and 6 respondents or 18.8% expressed very effective. Meanwhile stating less effective only 1 respondent or 3.1%. Student strongly supports the learning process of this mixture by using technology as its medium. They reveal that the use of technology is very useful to support digital learning with millennials such as current students. Blended Learning has given the flexibility to process learning in a face-to-face manner, it also supports face-to-face by integrating technology as a supporter as well as learning online Enables more dynamic and flexible time and place, where students are more able to study independently and further improve their learning outcomes through blended learning. As research from Sarah and Handaru (2015) mentioned that the model Blended Learning very effective to motivate and improve student comprehension. Also the Makhdoom et al (2013) concluded that blended learning made learning more effective. Blended Learning should also have interesting content so that it provides an impact for students, as research Kirna (2014) mentioned that content developed on the learning activity online-enabled will support blended learning.

The results of this study also allowed the use of blended learning. In this learning, there will be a dramatic increase in the use of mixed learning approaches in the coming years for higher education and more Islamic institution. As Graham's view (2005) that

"while it is impossible to see fully what the future holds, we can be confident enough that the tendency to the mixed learning system will increase". The emergence of mixed learning has been influenced by rapid changes in higher education in recent years. Wasis research (2015) mentioned that the model Blended Learning can provide a solution for students to solve their own learning problems.

According to Garrison & Vaughan (2013) indicated that changes in higher education are generally caused by three catalysts. First is the advancement of communication technology that has never happened before. The second catalyst comes from within an institution where the focus on research and growth in class has resulted in a loss of teacher-student interaction. The third factor is recognition of the quality of learning experiences in higher education that cannot be addressed by traditional methods. This has led to the emergence of Blended Learning which "has spread rapidly and with considerable resonances in higher education" (Garrison & Vaughan, 2008). The potential of the Web is in the near term seen as a tool for virtual collaboration, critical thinking, and an enhancement for the involvement of learners (Bonk & Graham, 2012).

Global connectivity is also predicted as a unified learning feature. Looking into the future, Bonk et al (2012), felt mixed learning as a means to build a shared cultural understanding on a global basis. For example, with mixed learning, a program of various contexts would share a similar online learning object as provided on the website Web Educational resources for learning and teaching online. Bonk et al (2002), predicts that blended learning will grow in the university because it reduces the meeting of classrooms or sitting time which then lowers the need for cost but at the same time can improve the results learning. Including the opinion of Haryani, et al (2012) concluded that blended learning is a practical learning that can be adopted by higher education. Thus, the college or more especially the higher education of Islam is worthy to apply blended learning as an alternative to the present learning model that can be utilized by the lecturers.

E. Conclusion

The implementation of based PIE study Blended learning on the Islamic Education Study teaching materials course was done with face-to-face and online/online goes smoothly and enhances the motivation and activity of students. A face-to-face lecture was done conventionally, where lecturers and students meet to formulate learning objectives and conduct discussions while lecturing online was performed at different times, but still in one meeting Courses. Blended Learning is an innovative present-day learning by giving students the breadth of time and place to be more active, interactive, communicative, self-reliant and able to solve their own problems. Students have a positive response to this model of blended learning. The intensity and quality and motivation of students are increasing. Student satisfaction is also seen from the enthusiasm in following every

instruction from the lecturer. Thus this result provided the opportunity for PTKI to be ready to organize the concept of blended learning in the lecture. It also gives researchers the opportunity to develop teaching materials into e-digital for easy understanding by students both offline and online.

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