Student's and Instructor's Perception toward the Effectiveness of E-BBQ Enhances Al-Qur'an Reading Ability

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The implementation of Al-Qur'an Reading Guidance (Belajar Baca Qur'an/BBQ – a word in the Indonesian language) program using traditional methods is considered not effective in terms of management, and lagging behind in terms of technology utilization. This has led to the development of a Learning Management System (LMS), specifically for Al-Qur'an learning, namely-BBQ. This study aimed to investigate the effectiveness of e-BBQ in improving the ability to read the Qur'an and the extent of e-BBQ acceptance by students and instructors in the framework of the Technology Acceptance Model (TAM) 3. This study used a nonrandomized control group pretest-posttest design by comparing two groups with and without e-BBQ, accompanied by interviews at the end of the study. The results showed that even though Al-Qur'an reading ability in both groups increased significantly, the increase in the e-BBQ group was higher than the group without e-BBQ. Student's and instructor's perceptions of e-BBQ showed that e-BBQ was considered easy and useful. In conclusion, e-BBQ is capable of enhancing students' Al-Qur'an reading ability. The usefulness and ease of use perceived by students became the main factors in this LMS acceptance, and helped them to improve their Al-Qur'an reading ability.

Keywords: learning management system, e-BBQ, reading Qur'an, technology acceptance model, perception

INTRODUCTION

The ability to read the Qur'an properly and correctly in accordance with *Tajweed* rules is a competency that must be possessed by every adult Moslem including undergraduate students. They are required to have this ability for the benefit of their worship as a Moslem. On the other hand, the structure of the Indonesian curriculum according to the Law of the Republic of Indonesia Number 20 of 2003 concerning the National Education System requires universities to load Islamic Education as a compulsory subject for Moslem students. This means that the ability to read the Qur'an is also needed for the success of their studies at the Bachelor level. However, in fact, most students still have unsatisfying abilities in reading the Qur'an. The results of the preliminary study that had been conducted showed that 4986 of the 5800 first semester students of the State University of Malang had a low ability in reading the Qur'an and the half of them were identified with Al-Qur'an illiteracy. Study of the ability to read Al-Qur'an by Alhamuddin et al. (2018) in one of the Islamic Religious Colleges in Indonesia also showed that most students did not have the ability to read the Qur'an properly and correctly.

The step that is taken by the University to improve the students' ability to read Al-Qur'an is by organizing an Al-Qur'an Reading Guidance (BBQ) program. This program is a special addition to learning in the classroom in each faculty focused on practicing the ability to read the Qur'an, especially for those who have low-ability and are illiterate in the Qur'an. This program is implemented with traditional methods and has lasted more than five years. The evaluation of this program showed quite encouraging results in terms of improving the students' ability to read Al-Qur'an but in terms of management of learning, it was still considered bad especially in the matter of assessing the development of students' abilities. One reason is the imbalance in the number of teachers and students. In fact, learning management has an important role in students' learning outcomes (Hewitt et al., 2017; Staden & Purcell, 2016).

Another problem is related to students' perceptions. In accordance with the findings of Asyafah (2014) and Hammza et al. (2013), students viewed traditional learning methods as applied to BBQ programs as an uninteresting and boring method. In addition, students considered the BBQ program is left behind in terms of the use of technology and has not met global challenges. The students' most worrying view is the presumption of direct and open feedback learning in a study group applied to the BBQ program as a method that reduces their learning motivation. This is also reinforced by the finding of a study conducted by Akbar (2013) which showed that this method made students felt ashamed and reluctant to relearn the Qur'an reading.

Along with the rapid development of information technology today, technology actually has the potential to record voices and verses of Al-Qur'an and then be used as an interesting medium in learning the Qur'an. However, unfortunately, not many scientists of computer have a concern in developing technology related to Al-Qur'an learning (Elhadj, 2010; Elhadj et. al., 2012). In fact, technology-based learning has many advantages over traditional modes because it provides learning opportunities at their own pace (Thoms & Eryilmaz, 2014; Liliarti & Kuswanto, 2018), is able to encourage

motivation (Hammza et al., 2013), and has facilitates feedback learning that is far more effective (Deeley, 2018).

The consideration of more modern learning with technological support has led to many higher education institutions including the State University of Malang to integrate the Learning Management System (LMS) into learning and teaching activities. In the last three years, LMS has actually been integrated into learning in most faculties at our university. Unfortunately, this case has not been integrated into the BBQ program. In the odd semester of this academic year, a special LMS BBQ program has been developed and integrated which we later call e-BBQ (electronic BBQ). This step was taken based on a number of LMS evaluation results applied in some faculties which showed positive results. In accordance with the findings of the research conducted by Holmes & Prieto-Rodriguez (2018), most students appreciated the accessibility and flexibility of LMS which provides high flexibility for them to access subject matter anytime and anywhere. LMS is also believed that it has helped institutions to plan, implement, and deliver learning more effectively (Chaubey & Bhattacharya, 2015). Another consideration, according to the findings of Venkatesh & Bala (2008), that experience is a moderating variable that is very important to consider in research relating to the acceptance of new technology. With their experience in using LMS, students are expected to be able to receive and use e-BBQ well.

e-BBQ as a new LMS applied in Al-Qur'an learning needs to be evaluated on the extent of its effectiveness, and to which students and instructors receive and use this LMS. It is very significant for the university to know the success of e-BBQ in improving the students' ability to read Al-Qur'an and look for a deeper understanding of how students and instructors view and react to e-BBQ. Thus, this study is considered to provide theoretical and practical implications for how the integration of LMS towards Al-Qur'an reading learning in Higher Education. In addition, this study also has the potential to make important contributions to national and international literature in terms of evaluating the success of LMS and the acceptance of students and instructors on LMS in Al-Qur'an learning, considering that until now there have not been many studies and research on this matter. In this study, we tried to find the answers to questions about e-BBQ that have been developed as follows: (i) is e-BBQ effective in improving the ability to read the Quran ?; (ii) how do students and instructors receive and use e-BBQ? In this study, to find out the effectiveness of e-BBQ, we carried out learning in two groups with and without e-BBQ, then evaluated and compared. Meanwhile, the acceptance and utilization of e-BBQ by students and instructors were analyzed and evaluated by referring to the Technology Acceptance Model (TAM).

LITERATURE REVIEW

Qur'an Reading Instruction

Traditional Qur'anic learning is still widely practiced in most religious schools and public schools in Indonesia because it is considered an effective method of improving the ability to read the Qur'an (Supriyadi & Julia, 2019). Even in the research report of Ariffin et. al. (2013), this method could improve not only reading skills but also the ability to memorize the Qur'an. The success of learning in the traditional way is

inseparable from the teacher's perception. The results of the research conducted by Lubis et al. (2011) showed that teachers had a positive perception of learning with this method. Teacher's perception has a major role in the success of learning. This learning is also known as the repeated reading name and has been proven to improve students' reading skills since two decades ago (Samuels, 1997).

On the other hand, this traditional learning is also blamed as the cause of the many students who are still having difficulties in reading the Qur'an (Mssraty & Faryadi, 2012). The disadvantage of traditional learning lies in the limited time and limited teacher, even though the teacher has a central role in this learning model (Putra et al., 2012). Noh et. al. (2013; 2014) reported that learning with traditional methods is also still widely applied in Al-Qur'an education in the United Kingdom. The limited time is the main problem, even students spend not more than 10 minutes studying with the teacher. This has an impact on their ability to read the Qur'an which is still low. Thus, the effectiveness of traditional methods is still a question, especially if applied to non-Arabic students (Ramdane & Souad, 2017), as in Indonesia.

Many think that the rapid development of technology can help the problems in Islamic education, especially in Qur'an reading (Mssraty & Faryadi, 2012; Putra et al., 2012; Ramdane & Souad, 2017). Learning methods by adding technological assistance are believed to help to increase the students' motivation and ability to read Al-Quran (Mssraty & Faryadi, 2012). The evidence of this belief is shown by a number of Malaysian researchers in developing J-QAF Program supporting technology in their national education agenda. The review conducted by Ibrahim et al. (2012) explained that discussion and review toward all different methods had been done, the results showed the use of technology, especially mobile application is the most suitable and significant method used for Quran learning. This method is more preferable to be used during the leisure time and it is more suitable to be implemented with current lifestyle for self-learning to optimize the study time. Next, Lubis & Latif (2013) also stated that technology is needed in learning the Qur'an. Technology greatly helps teachers to teach effectively in the classroom and helps students to learn independently outside the classroom. In other words, the implementation of technology in Qur'an learning can solve the problem of limited time because it encourages students to learn independently.

The successful use of technology in Al-Qur'an learning is also reported by a number of the other studies. Hammza et al. (2013) stated that technology could help Al-Qur'an learning process to become more attractive and effective. Furthermore, Alwi et. al. (2014) stated that the Qur'an application on smartphones could help to improve the students' ability to read Al-Qur'an. In Indonesia, learning media technology for the Qur'an has also been designed and tested with quite encouraging results (Alhamuddin et al., 2018). The use of technology actually does not only help to improve the quality of the teaching and learning process but also helps teachers to provide feedback learning to students in the Qur'an learning (Sihes et. al., 2017). Thus, it can be concluded that the use of technology actually really assists the learning process in Islamic Education institutions, where it depends on how the technology is used, of course, not forgetting the main purpose of learning (Zedan et. al., 2015).

Technology Acceptance Model (TAM)

TAM was introduced by Davis et al. (1989). This model was adapted from the Theory of Reasoned Action (TRA) model developed by Fishbein & Ajzen (1975). Venkatesh & Bala (2008) continued to revise and develop TAM further until the newest one, TAM3. TAM is used to model technology adoption based on individual views in making decisions to accept and use technology (Önal, 2017). According to TAM, there are two main variables that influence the user's decision to adopt a technology namely perceived usefulness (PU) and perceived ease of use (PEU) with four different types of determinants which consist of individual differences, system characteristics, social influence, and facilitating conditions. Broadly speaking, TAM illustrates that the ease and usefulness of the technology perceived by users will increase the positive attitude towards the technology.

TAM was chosen and used in this study because it is easy, simple, and commonly used in technology acceptance research (Lee et al., 2003). A number of research findings also showed that TAM was the most influential and predictive in measuring user behavior in technology (Davis et al., 1989; Venkatesh & Bala, 2008). In accordance with the suggestions from the latest research conducted by Bervell & Umar (2017), TAM3 was used in this research to investigate LMS. In the context of LMS research, the latest research as conducted by Saroia & Gao (2018), Mokhtar et al. (2018), Fathema et al. (2015), and Alharbi & Drew (2014) have also confirmed the validity of TAM in determining and measuring user's behavior in the LMS acceptance process. In fact, Tan & Hsu (2018) explained that TAM is a fundamental theory that should be used in LMS design research.

TAM is designed for various user populations, but in fact, the use of TAM applications for LMS is still limited and does not include popular research (Park, 2009; Psycharis et.al., 2012), especially in Al-Qur'an learning. In recent years, the application of TAM in investigating LMS has become a research trend in the field of education. Radif et al. (2016) examined the factors that influence LMS acceptance at the University of Iraq. The results showed that the students' attitudes were directly influenced by perceived ease of use. In addition, the students were generally optimistic about the usefulness of LMSs and they tended to be willing to use them effectively. Other research, Abdel-Maksoud (2018) also showed that if students considered a system useful and easy to use, then they were more likely to accept and be satisfied with LMS. From the teacher's point of view, research conducted by Gasaymeh (2017) showed that lecturers had a little interest or involvement with LMS and had concerns about the management aspects and timing of LMS implementation.

e-BBQ as Learning Management System

e-BBQ is a product of development carried out by lecturers in collaboration with graduate students at the State University of Malang to be applied in Al-Qur'an learning in Islamic Education courses for undergraduate students. This e-BBQ was developed to combine classroom-based learning with application-based virtual learning. In accordance with the explanation of Gasaymeh (2017), this LMS was developed as a convenient assistive technology for instructors to provide learning material and facilitate

a student-centered learning environment. In addition, the LMS was also developed for the purposes of more effective and well-managed administrative tasks (Klobas & McGill, 2010).

e-BBQ was developed as Learning Management Systems (LMS) which consists of Android-based applications and Web-based technology. The application is developed for the delivery of learning materials that are more attractive to students. The LMS trend shows that students prefer to use cloud-based technologies such as applications on smartphones compared to open-source LMSs and proprietary LMSs (Dobre, 2015). The results of the research conducted by Fauzi & Wan Khairuldin (2017) showed that mobile is a relevant and appropriate media to be used in reading the Qur'an in the modern era. Meanwhile, the web has been developed and utilized to provide more complete feedback learning. This development is more directed at adjusting the university's academic information system with web-based. Both are mutually integrated, where in the application there is a menu of student's ability assessment conducted by the instructor and the results will be visible on each student's account.

Based on the classification of Quranic computing according to Al-Khalifa et. al. (2009), e-BBQ further emphasizes speech recognition. In the MENU of Al-Quran Learning, this system is used as a technique to help students to learn Qur'an reading by making corrections and corrections of each user's mistakes Qur'an reading learning (Elhadj, 2010). Putra et al. (2012) explained that this technique will encourage every student to learn to read the Qur'an easily without feeling doubtful about the accuracy of pronunciation in accordance with Tajweed rules because they will feel that they have a virtual mentor who always provides corrections in the learning process. The results of the research undertaken by Salic (2017) showed that a large number of students stated that they had problems with Tajweed rules in reading the Qur'an. Even though they always read the Qur'an, improving their reading skills is impossible because of a lack of knowledge about it. This statement is reinforced by Ahsiah et al. (2013) which stated that understanding Tajweed rules is the main key in mastering Qur'an reading. This is what underlies the addition of the Tajweed Training MENU so that they continue to practice to improve their understanding of Tajweed and apply it to learning to read by using speech recognition as often as possible.

METHOD

Experimental Design

The experimental design used in this study was a nonrandomized control group pretest-posttest design (Leedy et al., 2019). The subjects of this study involved two groups whose members were not randomly selected. The first group was treated with learning using e-BBQ (*experimental*) and another group underwent learning as usual (as usual learning) namely face to face in the classroom (*control*). Both groups were subjected to the same measurements, namely the same pre-test and post-test, and the results were compared. The number of learning meetings, objectives, and learning materials provided to the two groups were the same. The study was conducted for one full semester namely odd semester of 2018-2019 academic year. The materials given were Tajweed and *Surah Al-Fatihah*. In addition to the post-test, at the end of the study, the interviews

were also conducted to find out the opinions of students and instructors in the experimental group regarding the use of e-BBQ which included the TAM3 components namely Perceived Ease of Use and Perceived Usefulness according to Venkatesh & Bala (2008).

Participants

The participants of this study were the first semester students who were taking the course of Islamic Education at the State University of Malang, Indonesia. Each experimental group and the control group consisted of 1000 students and 100 instructors. The students came from five different faculties with the same number between the experimental group and the control group. The Faculty of Sports Sciences consisted of 155 students per group; the Faculty of Education consisted of 375 students per group; the Faculty of Letters consisted of 210 students per group; the Faculty of Social Sciences consisted of 200 students per group; the Faculty of Psychology consisted of 60 students for each group.

Procedure

Before conducting the experiment, the instructor prepared the Learning Management System (LMS), especially the preparation for installing applications on an Android-based smartphone and activated the server for the website. The other preparations were designing and preparing pre-tests, learning activities, post-tests, and interviews. The instructor randomly selected two groups divided into groups given e-BBQ and traditional ones (not given e-BBQ). The instructors used previous learning plans to be used in traditional classes. Meanwhile, they redesigned the learning plan for the experimental class. Before conducting the experiment, e-BBQ consisting of applications and websites was validated by a number of media, language, material, and visual communication design experts. The results were declared valid and could be used for the Qur'an reading learning.

Learning began in the first week of the semester with pre-test activities. After both groups were given a pre-test, the results of the pre-tests were analyzed and compared. The group with a low pre-test was given treatment with e-BBQ learning, while the group with the higher pre-test was used as the control group. The learning for both groups was conducted for sixteen weeks with a minimum of sixteen face to face meetings. The learning was carried out in small groups with a maximum of ten students with one instructor. The students were then asked to complete the post-test in the last week of the semester and were interviewed about their opinions on the learning process that had been carried out. So were the instructors. The results of the pre-test and post-test were used to analyze and compare the learning outcomes namely the students' ability to read Al-Qur'an. Meanwhile, the answers of the students and instructors on the interview questions were used to analyze the perceptions of the students and instructors on the learning process carried out using e-BBQ.

The test was done by reading the Qur'an orally (oral reading) and directly in front of the instructor. In conducting the assessment, the instructor logged in first in the e-BBQ application and gave the mark based on the number of pronunciation errors in reading the Qur'an. In the e-BBQ application rating format, the mark is maximum (i.e. 100), and

the instructor will press the minus (-) button for each letter or word pronunciation error. Each error will be reduced by 1 point. *Surah* that was used in the pre-test and post-test was Al-Fatihah. This e-BBQ application especially the assessment format has been validated by three media experts, assessment, and evaluation of learning. The results were declared valid and suitable for use in measuring the Qur'an reading ability.

Data collection on students' opinions was undertaken with interview questions. The questions include: (1) Does learning using e-BBQ affect your ability to read the Qur'an?; (2) What are the positive aspects of using e-BBQ in learning to read the Qur'an?; (3) Is the e-BBQ more helpful for you in learning the Qur'an compared to learning with traditional methods? and subsequent questions according to the answers given by the students. Whereas, the data collection regarding the instructors' opinion was executed with interview questions which focused on management. The question is: can the implementation of e-BBQ help the management of learning more effectively?

Data Analysis

In this study, interviews were not conducted with all participants. The interviews were carried out on some students and instructors randomly that represented all faculties. The results of the interviews were then transcribed and coded. The analysis was undertaken with two main steps namely (1) examining in detail and carefully producing units of meaningful data and (2) classifying and categorizing in a particular theme (Alshenqeeti, 2014), according to TAM3. The way to encode used open coding methods (Berg & Lune, 2017). The data obtained in this study were analyzed by the researchers. To achieve the validity and reliability of the data that had been collected, several actions were executed by the researchers at the end of this study namely: (1) the researcher notified the main results of the analysis carried out to the participants and asked for their opinions; (2) the researcher asked for opinions from a number of experts in the same field namely the Learning Management System (LMS) and Islamic Education especially Al-Qur'an about how accurate the results obtained. This action aims to ensure that the data produced is accurate and impartial to anyone (Merriam, 1998).

The data acquired from Al-Qur'an reading test were analyzed quantitatively using the descriptive and inferential statistical methods. The descriptive statistics were presented in the form of mean and standard deviation. The paired t-Test was used to measure the increase in the ability to read the Qur'an in each group. ANCOVA was used to find the differences between the experimental and control groups.

FINDINGS

Qur'an Reading Skills

Descriptive statistics (figure 1) showed that experimental groups and control groups experienced an increase in the ability to read the Qur'an. The pre-test data in the control group was M= 64.15 (SD = 10.75) and in the experimental group was M= 49.75 (SD = 12.08) showing that there were large differences in students' initial abilities. The post-test data in the control group amounted to M= 84.88 (SD = 7.82) and the experimental group of M= 75.94 (SD = 5.98) also showed that there were large differences in the students' final ability. The experimental group (M= 26.19) gained a higher increase in

Al-Qur'an reading ability compared to the control group (M= 20.73). Thus, there was a difference between groups that were treated with learning with and without e-BBQ in terms of improving the ability to read the Qur'an.

The paired sample t-test results for the control group showed that the mean was 20.73 (SD = 11.83) with the value of t = 55.425, p (0.000) <0.05. That is, the students' ability to read Al-Qur'an in the control group increased significantly. Meanwhile, the results of the paired sample t-test for the experimental group showed that the mean was 26.19 (SD = 13.57) with a value of t = 61.030, p (0.000) <0.05. That is, the students' ability to read Al-Qur'an in the experimental group also increased significantly. Both groups increased significantly with Cohen d size effect values classified as large but the experimental group had a higher size effect value (1.93) compared to the control group (1.75).
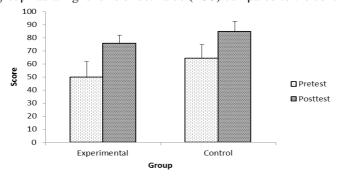

Figure 1
Descriptive Statistics of Qur'an Reading Skills

The ANCOVA test results (table 1) showed that there was a significant difference between groups with e-BBQ and conventional in terms of increasing the students' ability to read Al-Qur'an with p values (0.000) <0.05. The corrected mean value for the control group was 84.402 and the mean value was corrected for the experimental group of 76.410.

Table 1
The Results of ANCOVA Test of Qur'an Reading Skills

Source	Type III Sum of Squares	Df	Mean Square	F	Sig.
Corrected Model	41115.934[a]	2	20557.967	429.167	0.000
Intercept	455280.913	1	455280.913	9.50E3	0.000
Pre-test	1136.252	1	1136.252	23.720	0.000
Treatment	22868.852	1	22868.852	477.409	0.000
Error	95660.934	1997	47.902		
Total	1.307E7	2000			
Corrected Total	136776328	1999			

a. R Squared = .301 (Adjusted R Squared = .300)

Students' and Instructors' Perceptions

To find out how students and instructors perceived the use of e-BBQ in the Al-Qur'an learning class, the researchers examined and analyzed the data that had been collected

through interviews. The researchers found that in general, the students and instructors stated that the use of e-BBQ had helped them in their learning activities and teaching the Qur'an reading better. They expressed their satisfaction with the implementation of e-BBQ in Al-Qur'an learning.

The students' and instructor's responses were grouped into two categories, namely Perceived Ease of Use and Perceived Usefulness. Each major theme was then grouped back into several themes namely facilitating conditions, system characteristics, social influence, and individual differences.

Student's Opinions in Perceived Ease of Use Category

In the theme of facilitating condition, the students stated more about the flexibility of e-BBQ in learning. The students' comments are as follows.

S3: "We can practice reciting *Surah Al-Fatihah* all the time we want, or wherever we are very easy and no need for other people to judge our reading."

S4: "We can easily access the material of *Makharijul Huruf* and *Tajweed* in this application. This application is like a note that I can carry anywhere very easily."

S10: "We are greatly helped by a complete assessment with the information of misreading. Of course, this information facilitates us to focus on practicing to correct reading errors."

On the theme of system characteristics, the students expressed more about the easiness and simplicity of learning application interfaces. The students' comments are as follows.

S5: "The visual application is designed with Islamic nuances and simplicity. The color combination is interesting. The appearance of letters or verses is arranged well and clearly. The simple interface is very easy to use."

Q7: "Al-Qur'an learning is usually accompanied by others who have excellent Quran reading. With this app, we just hit the voice button in every verse from *Surah Al-Fatihah*."

S12: "This application is quite interactive. This application is actually simple but it is enough to help us in learning the Qur'an. It's easy to use. We think everyone can use it well without special instructions."

Students' Opinions in Perceived Usefulness of Use Category

In the theme of individual differences, the students stated more about the application which greatly helped them in learning to read the Qur'an. The students' comments are as follows.

S2: "We feel helped in understanding and reciting Al-Qur'an reading better and faster, because we can practice as often as possible and focus on less correct reading."

S15: "We feel that the methods and tools used here have successfully helped us in mastering the material given in the Qur'an class, they are very significant, and at the end of the learning process of this semester, we feel our reading is far better than before."

S17: "We see that Qur'anic learning usually seems traditional with face-to-face learning every time. This system has made the Qur'an class more meaningful (meaningful learning). Of course, it encourages us all to practice continuously."

In the theme of system characteristics, the students stated more about sound and feedback learning. The students' comments are as follows.

S14: "Sound in this application provides an overview of how to read Al-Qur'an with correct pronunciation and beautiful voice. This is enough to help us to continue developing ourselves and learning independently. "

S16: "This application is equipped with direct feedback whether our reading exercises are correct or not? This is enough to help us who are sometimes embarrassed in practicing reading the Qur'an."

In the theme of social influences, the students stated more about learning motivation. The students' comments are as follows.

S11: "We initially considered Al-Qur'an class applied at our University would be boring, but with a more modernly designed system, I have a more positive outlook on Al-Qur'an class that I follow."

S12: "The material display in the application like this is in accordance with our needs and what we expect. Of course, this makes us want to continue to practice reading through this application."

S19: "Al-Qur'an learning feedback is also conveyed through a website that we can easily access through a personal account. This certainly makes me not feel embarrassed when I still read with a lot of mistakes because only me who knows, even this makes my motivation higher to continue learning, especially in some parts that are still weak and wrong."

S20: "A complete and easy system has made Al-Qur'an learning much more enjoyable."

Instructors' Opinions in Perceived Ease and Usefulness of Use Category

The instructors' answers to the questions were more directed to the facilitating condition namely more effective management.

I15: "e-BBQ is very helpful for instructors in preparing, implementing, and evaluating students' learning progress. The administrative tasks that were used to be very complicated, now become simple due to this LMS."

I28: "e-BBQ is an effective solution to the management and administrative problems that are so complicated in the implementation of BBQ program. The administrative tasks become easier, ordered, and effective."

I45: "e-BBQ helps us to deliver the results of the evaluation transparently while maintaining confidentiality. As a result, the students feel more comfortable."

DISCUSSIONS

The results of this study provided additional evidence that Al-Qur'an reading learning with the integration of the Learning Management System (LMS) is the best and most

effective way in this era. In accordance with some pieces of literature that have been mentioned, Al-Qur'an learning with technological modes could help to learn to be more interesting and interactive. The impact of improving the quality of higher learning is increasing student's motivation in learning. In the end, this method could help to improve the ability to read the Qur'an significantly.

The findings of this study did not emphasize that learning with technology produces positive effects and vice versa for learning with traditional methods. However, this study proved and reinforced that learning with traditional methods also has high effectiveness. Both of these methods could produce positive results because basically both of them adopt the same learning method namely repeated reading. These results have confirmed previous studies conducted by Ariffin et al. (2013). In a different context, the first study by Samuels (1997) and the latest by Hidayat (2018) also stated that the repeated reading method was proven effective in improving reading skills. The addition of technology is indeed an additional requirement in learning with the repeated reading method and has been reported to have higher effectiveness than without technology (Carver & Hoffman, 1981). This explanation can be used as a basis and empirical evidence in explaining why e-BBQ is more effective than traditional methods.

From the students' point of view, the integration of e-BBQ as an LMS in Al-Qur'an learning has made learning more enjoyable because it is considered to be in accordance with their style and learning speed. LMS has provided flexible learning where students can learn wherever and whenever (Chaubey & Bhattacharya, 2015; Holmes & Prieto-Rodriguez, 2018). LMS also helps students to understand their outcomes and encourage them to learn independently (Husain et. al., 2017). This e-BBQ integration has made students interested in learning as often as possible with this application, thus the duration of their study time is longer. The direct impact of this is that the students' ability to learn with e-BBQ tends to increase faster than the groups without e-BBQ. According to the explanation of Lee et al. (2017), the differences in students' abilities are closely related to the duration of learning time.

One of the special concerns in the application of e-BBQ is eliminating the negative perception of feedback learning in the BBQ program. From the findings of this study, the students considered e-BBQ as the right way for them because it provides more effective feedback learning. The students felt that the feedback given was constructive and motivating. This result is in accordance with the statement of Sihes et al. (2017) and Adams & Strickland (2011) which revealed that feedback learning with technical assistance is a viable and profitable alternative choice. They also felt comfortable with speech recognition technology as a virtual mentor. This facility provides corrections without making them feel ashamed and reluctant to relearn. Al-Hattami (2019) explained that constructive feedback learning is the most crucial tool in learning. Thus, this study showed that e-BBQ has provided feedback learning which indeed should be able to motivate students to correct mistakes, not vice versa.

From the instructor's point of view, e-BBQ is considered to be very helpful to instructors in simpler administrative tasks. The research findings are inversely proportional to the findings of previous research conducted by Gasaymeh (2017). The high involvement of

instructors in e-BBQ learning was because they were given the opportunity to observe how e-BBQ positively influences Al-Qur'an learning. Dougherty (2015) explained that if teachers have the opportunity to feel and observe the positive effects of using technology on learning, they will be more open to adopting these technologies in their learning. Gasaymeh (2017) explained that teachers are the key players in the successful implementation of technology in their teaching practices. In other words, e-BBQ has been able to overcome the problem of management learning that is often complained by the instructors.

This finding also proved that e-BBQ could solve various obstacles encountered in the application of BBQ with previous traditional methods as well as provided recommendations for integrating LMS in Al-Qur'an learning which still has constraints in terms of teacher's limitations and time. Thus, it can be stated that this research contributes directly in improving the quality of learning in higher education, makes management and administrative tasks more effective, and builds information systems in appropriate learning activities, especially in reading the Qur'an. Bates & Sangrà (2011) explained that technology is a key factor to ensure necessary and relevant changes in the transformation of higher education.

Broadly speaking, the research finding regarding perception was that e-BBQ which had been developed and integrated into Al-Qur'an learning was considered easy to operate and offering many benefits, both from the students' and instructors' perspective. This showed that e-BBQ could be accepted and used by students and instructors in the learning process. The results of this study are consistent with the research conducted by Radif et al. (2016) and Abdel-Maksoud (2018) in the literature mentioned. Previously, Juhary (2014) and Handayani (2013) in their research also stated that the usefulness and ease of use perceived by students became the main factors in LMS acceptance, and influenced their behavioral intentions to use LMS.

There were some weaknesses in this study. The initial ability between the experimental group and the control group was not at the same level. This condition caused specific problems. Ghadim et al. (2013) explained that Al-Qur'an learning process is also influenced by the students' basic understanding. In this study, it can be also seen in the analysis results (table 1) which showed that the pre-test had a significant effect with p (0.000) <0.05. Future research is necessary to carry out initial capacity equality or divide the samples into two groups that have the same distribution and average abilities. The methodology used in exploring the students' perceptions in this study was only by interviewing the results of qualitative data types, without using other techniques such as questionnaires for the type of quantitative data. Similar research in the future needs to consider other types of research methodologies, such as using questionnaires technique with Structural Equation Model (SEM) analysis to gain a deeper understanding of the students' and instructors' perceptions. The final ability of the experimental group that was far from the control group has also opened up future research opportunities to find the proportion of learning in mode and without the right technology that can improve the ability to read the Qur'an faster. These results also encourage the need for longer research to find out the time needed by the experimental group to match or even exceed the ability of the control group.

CONCLUSIONS

The research findings showed that (i) learning with e-BBQ integration was more effective in improving Al-Qur'an reading skills compared to learning with traditional methods, however both of them showed a significant increase and were classified as large effect sizes; (ii) from the students' point of view, e-BBQ was considered easy to operate and helped them to improve their Al-Qur'an reading ability, whereas from the instructors' point of view, e-BBQ was considered helpful to simplify administrative tasks. This assumption showed that the students and instructors accepted and used e-BBQ.

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