
The Effectiveness of Game Quizizz Using Learning Media On Students' Outcomes

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ARTICLE INFO

Keywords:

Learning Media,
Quizizz, Students' Outcome

Received : 06 August 2022
Revised : 08 August 2022
Accepted : 08 August 2022
Published : 16 August 2022

ABSTRACT

In this neo culture technology, the role of technology and media, then became very large in the 21st century learning process and it was various implications. In learning process might vary between teachers, technology, and media. This study aimed to determine the influence of Quizizz learning material-based educational games on the performance of junior high school students in foreign language dormitories at Language Boarding House (LBH) Salafiyah Syafi'iyah Sukorejo. This research used a non-equivalent group, a post-trial semi-experimental research design, it was an examination of learning activities in the form of actions that deliberately appeared and occur in the class simultaneously. Collection of the data techniques were done by tests and questionnaire. The use of Quizizz educational game-based learning materials was effective in improving the academic achievement of Intermediate Foreign Language Boarding (LBH) students. It was proven by the t count's value ($3.373 > t \text{ table } (2.160)$). The results of the effective use of Quizizz educational game-based learning media were high/good on the learning outcomes of Intermediate Language Boarding House (LBH) students. It was indicated by the percentage of students with scores greater than or equal to 80 was 43% percent and the percentage of students with scores greater than or equal or equal to 70 was 86%. And the percentage of student response questionnaires showed that 71% of student responses were very good and 29% are good.

1. Introduction

Advances in technology and era, especially information technology, greatly have an effect on the formulation and implementation of studying techniques. Various IT-based totally multimedia facilities can be used to make the learning method is more exciting. Computer-based multimedia is part of the way to design a learning method more fun. Many interesting variations of learning applications have been presented for minerals with paid and free so that they can be maximized properly (Johnson, 1991);(Mulyati & Evendi, 2020, pp. 65–66). One of the media-based technologies comes in the form of software that uses Android technology. Information technology is very important as a tool to develop learning media for students (Basar, 2019) ;(Wijayanti et al., 2021, p. 65). By this technology development, teachers can use the media based on learning needs and goals. Using various media is needed to make the students more attracted in learning. (Hidayatullah, 2020); (Vieira & Nahas, 2005).

To realize this, Educational games are one of the learning environments that can be applied. Educational games are one type of game that can be used to support the educational process in a more fun and creative way and are used to transfer or expand user knowledge through interesting media (Dewi, 2012, p. 11) ; (De Freitas, 2018). With educational games, one's thinking power is sharper in responding to lessons because educational games can apply fun aspects such as anime to games. Besides being fun, it will also make someone think more critically and creatively when playing it, thereby increasing concentration and being able to solve certain problems (Deta et al., 2021, pp. 2540–8984) Games as getting to know media which can be integrated with assessment substances or questions are forecast to make getting to know extra attractive and fun learning activities. Games are defined by curiosity, wish, manipulate, and interactive functions, which can also increase student hobby in gaining knowledge of interest in studying, and motivation for students (Deta et al., 2021).(Noemí & Máximo, 2014).

One of the virtual games that may be used as mastering media in the technology of the 4.0 gaining knowledge of revolution is Quizizz. Quizizz is likewise a amusing multiplayer quiz app. Quizizz may be accessed through the website and utilized by college students at domestic. Not like other educational apps, in educational games, Quizizz has many interesting features including songs, and avatars, besides that Quizizz provides training in the form of competitions between each other and encourages learning, so that the improvement in educational outcomes becomes visible (Purba, 2019). Quizizz can be used in learning activities such as holding pre-tests, post-tests, and practice questions, strengthening material to measure student understanding, remedial, homework, and so on (Citra & Rosy, 2020). Quizizz can also be used as a good and fun learning strategy without losing the essence of continuous learning. Even this strategy can involve the active participation of students from the beginning.(Noor, 2020, p. 7)

From the background, we can conclude that learning media must be developed and adapted to technological developments so that students do not experience monotonous and boring learning. There are many applications based on learning of media used educational games and learning evaluations. One of them is Quizizz With its advantages, Quizizz can be accessed anywhere and anytime. Quizizz also includes pictures, themes, music and memes that can make learning more interesting and fun. With a pleasant atmosphere, students can be more enthusiastic in learning. And the effect is that student learning outcomes are further improved. In this case, the researcher wants to know the result of the impact of the Quizizz educational game based learning media. These results can be seen from the outcomes of student learning from before using Quizizz to after using Quizizz. Is it increasing or decreasing. It can also be seen from the questionnaire that will be distributed to the experimental group.

2. Methods

This research used a quasi-experimental research design with a non-equivalence group pre-test and post-test design. According (Sugiyono, 2017); (Nana Syaodih, 2010, p. 194) the method of experimental research is one of the quantitative methods. It is used especially if the researcher wants to experiment to find the impact of the independent variable/ treatment/ certain treatment on the dependent variable/ outcome/ output under controlled conditions.

In this study, the population of the English Language Boarding House (LBH) class members was 111 students. The purposive sampling technique is used by the researchers which is a technique of sampling with certain considerations. Purposive sampling allows researchers to take samples using their judgment to select the appropriate sample to collect the required data and is usually based on prior information (Arikunto, 2006, p. 130);(Sugiyono, 2017, p. 127). It was chosen because the sample has a purpose, makes data collection easier for authors. This study used sample of Intermediate A (control class) which consisted of 14 students and Intermediate B (experimental class) which also consisted of 14 students.

This research will use the instrument in the form of a test of learning outcomes (pre-test of group and post-test of group) and questionnaires. Learning test is part of the learning outcomes test as a tool to measure student learning outcomes that have been achieved over time (Nana Syaodih, 2010, p. 223). The purpose of data collection is to use the questions given to the respondents with some written questions to be answered (Sugiyono, 2017, p. 402). The research used Likert Scale.

The researcher gave questions through the Quizizz media and used learning outcomes tests and questionnaires for obtaining data. Giving questions through Quizizz media as a means to see the what percentage of students understand the subject material being taught. While the test data was obtained from the pre-test of group and post-test group. A pre-test of group is a test conducted in groups before being given treatment and aims to determine the students' initial achievement. A post-test of group is a test taken on the group afterward being given treatment and aims to determine student achievement after treatment.

The questionnaire is used to find out students' responses to the use of Quizizz media. Questionnaires are often called questionnaires. The questionnaire is a very flexible and relatively easy-to-use questionnaire. The questionnaire used in this study was a closed questionnaire whose answers are given in such a way that the respondent simply selects and marks the answers that should have been selected (Azwar, 2010, p. 101). The collected in this research used test to hypothesis or answer to questions that have been formulated because the data obtained will be used as basis for concluding and the data collected must be correct (Mulyatiningsih, 2011, p. 24). According to (Mulyatiningsih, 2011) an item is said to be valid if it has great support for the total score. The score on the item causes the total score to be high or low. In other words, an item has high validity if the item score has a parallel with the total score. Indicators are valid or not seen using the significance level 5% ($\alpha = 0,05$), that is if $r_{count} \geq r_{table}$ so the item can be valid. To determine the r_{count} , the researcher used the SPSS 16. The summary of the results of the validity test of the student response questionnaires of validity test by number 1 to 10 those are number (1). count $0,850 \geq r_{table} 0,532$ (2). count $0,547 \geq r_{table} 0,532$ (3). count $0,851 \geq r_{table} 0,532$ (4). count $0,867 \geq r_{table} 0,532$ (5). count

0,918 \geq r tabel 0,532 (6). count 0,796 \geq r tabel 0,532 (7). count 0,850 \geq r tabel 0,532 (8). count 0,748 \geq r tabel 0,532 (9). count 0,867 \geq r tabel 0,532 (10). count 0,782 \geq r tabel 0,532.

According to (Sugiyono, 2017) reliability is a series of measurements or a series of measuring instruments that have consistency when the measurements made with the measuring instrument are repeated. The measuring instrument used to measure reliability uses the Cronbach Alpha statistical test. According to (Arikunto, 2010), Cronbach's Alpha is used to find the reliability of an instrument whose score is not 1 or 0. In Cronbach's Alpha method. Calculations using the Cronbach Alpha formula are accepted, if the calculation of r count $>$ r table 5%. To find out r count, the researcher used the SPSS 16 program. In the research questionnaire, there were 10 questions with the highest score of 5 and the lowest score of 1. From this information, it is known that the highest number of scores is 50 (5x10) and the lowest total score is 10 (1x10). In determining the interval distance for each level.

Then for analysis data, the normality test is to determine whether the data from the population is normal or not. This test is purpose for ensuring the data distribution that achieved from the population that has a normal distribution or not. The normality test used is the KolmogorovSmirnov test, dan Shapiro Wilk. The researcher conducted a normality test using SPSS 16. The criteria for the test results were as follows: If the value (p) $>$ significant ($\alpha = 0.05$) it means that the sample from the population, H_a is accepted, and H_0 is rejected (normal distribution). If the value (p) $<$ significant ($\alpha = 0.05$) it means that H_a is rejected and H_0 is accepted (not a normal distribution).

The homogeneity test had carried out to determine whether the study population was homogeneous or not. The researcher used SPSS 16 in this study. Criteria of the test results: If the value (p) $>$ significant ($\alpha = 0.05$), H_a is accepted, and H_0 is rejected, which means that the sample has varied homogeneously, which means Quizizz media is effective in improving student learning outcomes. If the value (p) $<$ significant ($\alpha = 0.05$), H_a is rejected and H_0 is accepted. it means that the sample does not vary homogeneously, which means Quizizz media is not effective in improving student learning outcomes.

The data analysis technique in this study was statistical analysis with a t-test to determine the effectiveness of Quizizz media on student learning outcomes significantly ($\alpha = 0.05$). The researcher used SPSS 16 in this study. According to (Arikunto, 2010, p. 265) the decision-making guideline in the paired sample ttest test is based on the t count and t table of the SPSS output if the t count $<$ t table, then H_a is rejected and H_0 is accepted, if the t count $>$ t table, then H_a is accepted and H_0 is rejected. Researcher take from the result of questions through the Quizizz media, and take the data from learning outcomes score, the researcher also take from the score of questionnaire.

3. Result

From the analysis of the English learning process with the media, the quizzes in the intermediate English Language Boarding House (LBH) class went very well. This is reflected in the effectiveness of the use of quiz media, learning outcomes tests, and student responses.

a. Data Analysis of the Results of Problem Working Using Quizizz Media

Regarding the criteria for achieving effectiveness by using the Quizizz media, students find it helpful to understand the description through questions and facilitate students to review all the learning that has been achieved immediately. In addition, the use of Quizizz media also helps students to remember learning because they can repeat what they have learned through questions from Quizizz media.

Tabel.1 Problem Solving Results by Using Quizizz

No.	Percentage of Acquired Value					Effectiveness Criteria
	≥80	≥70	≥60	≥50	≥40	
1	43%	86%	100%	100%	100%	High

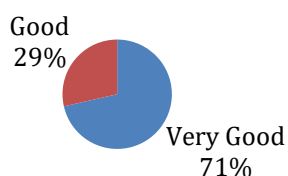
Based on the criteria for the effectiveness of problem-solving, the percentage of students who scored more than or equal to 80 (N 80) was less than 75%, namely 43%, and the percentage of the number of students who scored more than or equal to 70 (N 70) is more than equal to 75%, which is 86%. It can be inferential that the effectiveness of the results of working on questions with Quizizz is high.

Tabel.2 Paired Samples Test

	Paired Differences							
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference		t	Df	Sig. (2-tailed)
				Lower	Upper			
Pre-test	-10.000	11.094	2.965	-16,045	-3595	3.373	13	.005

Based on the output of the "Paired Sample Test" above, it is known that the t count is negative, which is -3.373. The t-count is negative because the average value of pre-test learning outcomes is lower than the average post-test learning outcomes. In a context like this, a negative t count can be positive. So the value of the t count becomes 3.373. It is known that the value of df is 13 and the value of $0.05/2$ is equal to 0.025. Then the value of the t table is 2145. Because the value of t arithmetic ($3.373 > t$ table (2.145)), the use of Quizizz media is effective in improving learning outcomes.

This study has generally shown that the Quizizz media usage has been effective when viewed from the results of working on questions using Quizizz and learning outcomes tests and reinforced through questionnaires.



Picture.1 Percentage of Student Response

It is proven in graph above that 71% of student responses are very good, and 29% are good, which means that student learning results are effective by using Quizizz educational game-based learning material.

b. Analysis of Learning Outcome Test Data

The normality test in the pre-test resulted in a significance value (p) of 0.175 in the control class and 0.124 in the experimental class ($p > 0.05$), so that the data were normally distributed based on the Kolmogorov-Smirnov and Shapiro Wilk normality test. In addition, the post-test obtained a significant value of $p = 0.124$ and 0.63 . Thus the data was distributed normally. The data that was tested was said to be homogeneous based on its significance value. The significance value (p) 0.05 indicates that the data group comes from a population that has the same variance (homogeneous).

The significance value (p) < 0.05 indicates that each data group comes from a population with different variances (not homogeneous). The data shows that the significance value in the pre-test is $0.373 > 0.05$ and in the post-test $1,000 > 0.05$. It concluded that the data is homogeneous.

4. Discussion

From the analysis of the English learning process using the Quizizz media in the Intermediate Language Boarding House (LBH) class, it has gone very well. It can be seen from the effectiveness of using Quizizz media, learning outcomes tests, and student responses. Regarding the criteria for achieving effectiveness by using the Quizizz media, students find it helpful to understand the description through questions and facilitate students to review all the learning that has been achieved immediately.

In addition, the use of Quizizz media also helps students to remember learning because they can repeat what they have learned through questions from Quizizz media. Based on the criteria for the effectiveness of problem-solving, the percentage of students who scored more than or equal to 80 (N 80) was less than 75%, namely 43%, and the percentage of the number of students who scored more than or equal to 70 (N 70) is more than equal to 75%, which is 86%. It can be inferential that the effectiveness of the results of working on questions with Quizizz is high.

The use of Quizizz educational game learning media is effective, as evidenced which shows that the pre-test and post-test scores in the experimental class experienced a significant increase. It can be seen that the normality test in the pre-test resulted in a significance value (p) of 0.175 in the control class and 0.124 in the experimental class ($p > 0.05$), so that based on the Kolmogorov-Smirnov and Shapiro Wilk normality test the data were normally distributed. In addition, the post-test obtained a significant value of $p = 0.124$ and 0.63 .

Thus the data is also normally distributed. Then in table 4.8 shows that the significance value in the pre-test is $0.373 > 0.05$ and in the post-test $1,000 > 0.05$. So it can be concluded that the data is homogeneous. T-test count value is $(3.373) > t$ table (2.145) , it is concluded that H_0 is rejected and H_a is accepted, or in other words, the use of Quizizz media is effective in improving learning outcomes. In general, this study shows that the Quizizz media usage has been effective when viewed from the results of working on questions using Quizizz and learning outcomes tests and reinforced through questionnaires. It is proven in chart 4.1 that 71% of student responses are very good, and 29% are good, which means that the use of Quizizz educational game-based learning media is effective on student learning outcomes.

5. Conclusion

The use of educational game-based learning media Quizizz is effective in improving student learning outcomes in the Intermediate Language Boarding House (LBH) class. It is proven by the value of t count (3.373) > t table (2.160). The results of the effective use of Quizizz educational game-based learning media are high/good on the learning outcomes of Intermediate Language Boarding House (LBH) students. It is indicated by the a percentage of the total number of students who scored more than or equal to 80 is 43% and the a percentage of the total number of students who scored more than or equal to 70 is 86%. And the percentage of student response questionnaires shows that 71% of student responses are very good and 29% are good.

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