



The Effectiveness of Quizizz as a Learning Medium on Student Learning Outcomes in Social Studies

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Article Info

History Article

Received: July 10, 2025

Revised: Sept 3, 2025

Accepted: Sept 22, 2025

Keywords:

Quizizz Learning Media,

Student Learning

Outcomes, Social Studies

Abstract

Quizizz is an interactive and engaging social studies learning platform because it is equipped with gamification features such as avatars, themes, memes, and music that can increase student involvement when taking quizzes. This study aims to determine the difference in social studies learning outcomes between VIII grade students who use quizizz media and those who do not, and to measure the effectiveness of using quizizz in improving learning outcomes at SMP Negeri 4 Pamekasan. The method used is quantitative with the type of quasi experiment and the pre-test post-test Nonequivalent Control Group design. The results showed a significance value of $0.000 < 0.05$ and a calculated t value of 2.600, which indicated a significant effect of using quizizz media on student learning outcomes. N-Gain analysis showed an increase of 81.99% in the experimental class and 26.32% in the control class. The average pre-test and post-test scores in the experimental class were 55.6 and 89.1, while in the control class 51.5 and 64.3. The difference in the average increase in the experimental class (33.5) is much higher than the control class (12.8), so it can be concluded that quizizz learning media is effective in improving students' social studies learning outcomes.

2025 Institut Agama Islam Negeri Madura

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E-ISSN: 3047 -1885

<https://doi.org/10.19105/sociale.v2i2.21118>



Introduction

Learning in the 21st century brings changes to the development of the education system in the world, especially in Indonesia. These changes are seen through changes in the education system which includes learning, teaching, curriculum, student development, learning methods, learning tools, facilities and infrastructure, as well as through changes in the ability of graduates from time to time (Putriani & Hudaidah, 2021). With the development of this era, the world of education is expected to be able to keep up with the development of increasingly advanced technology and must be able to utilize information and communication technology as a means or learning media that facilitates the teaching and learning process.

Through the selection of appropriate and diverse learning media, it can eliminate student passivity. In this case, learning media aims to improve the achievement of student learning outcomes, arouse enthusiasm for learning, make students learn independently according to their skills and interests (Suriyanti & Thoharudin, 2019). Learning media resulting from technological developments, such as laptops or computers and projectors or handphone. These devices enable teachers and students to access digital learning resources more easily, interactively, and flexibly. For example, with the help of laptops or computers, teachers can create interesting presentations, use interactive learning applications, and access the internet to obtain more diverse and up-to-date teaching materials, which are expected to improve student learning outcomes.

Learning outcomes are all changes in cognitive skills, attitudes, and psychomotor skills obtained by students through the learning process, both oral and written (Saragih et al., 2021). In social studies subjects which contain a combination of material from Geography, History, Economics, Sociology still depend on the use of textbooks and other books. There are many types of learning media that teachers can use in the learning process, including interactive media such as games and quizzes. Conducting interactive games and quizzes is a strategy that teachers implement with students with the aim of increasing students' understanding of certain materials. One that can be used to conduct interactive games and quizzes is using the quizizz application or website.

Quizizz is an interactive and fun social studies learning assessment media, because there are game characters including avatars, themes, memes, music, and others to entertain students while taking the quiz. Quizizz is a game based on an answer system that

is played in real time during class. Quizizz can randomize the order of questions for each student, but quizizz can also provide homework to provide practice to students.

This is confirmed by research by Nur Laily Sa'adatus which states that when observing the experimental class, the enthusiasm for learning arose from students when they did quizzes using gadgets and the quizizz application. This makes learning more interesting and less boring. During learning, a reward system is applied, where in theory students who get the highest score will receive an award from the teacher, while those who get the lowest score will get certain consequences. This encourages students to compete in learning in order to achieve better results (Al et al., 2023).

The difference between this study and previous studies is that most previous studies using learning media such as quizizz tend to focus on exact subjects such as mathematics and science, or on language subjects. These studies generally assess the effectiveness of quizizz in improving learning outcomes through objective questions with definite answers. In contrast, this study fills a gap by exploring the use of quizizz in the context of social studies, which emphasizes narrative, analytical, and interpretive understanding. This focus contributes new insights to the study of interactive digital media, demonstrating how quizizz can be adapted to support learning that is not only based on memorization, but also on conceptual understanding and reasoning.

Previous research has focused more on the effect of quizizz media as an evaluation media in exact and language learning, and has not linked it directly to a particular learning model. This research fills the gap by applying quizizz learning media in social studies learning through the Problem Based Learning (PBL) model and discussion method, thus making a new contribution to the use of interactive media in problem-based and collaborative learning at the junior high school level.

From the results of pre-research conducted with social studies teacher SMP Negeri 4 Pamekasan, he explained that during social studies learning he used methods in the form of lectures and discussions, and also used learning media in the form of textbooks/modules and also student worksheet, but even though he had used the media and methods, there were still problems faced by students in class VIII, namely many students who were unable to achieve grades in social studies class due to lack of activeness in participating in learning and students felt bored when the teacher gave assignments in the form of tests, resulting in student learning outcomes obtained were not optimal as

evidenced by the results of students' mid-semester test scores that did not reach the minimum standard. The school also allows students to bring cellphones if the subject teacher recommends it to be used as a learning medium due to curriculum changes (Sitti Nurul Hidajati, 2024).

Based on interviews with social studies teachers and several eighth-grade students, low social studies learning outcomes are caused by a lack of student engagement in the learning process. From the teachers' perspective, students' low motivation to learn is caused by excessive use of gadgets, where students play games more often than they study. In addition, the habit of leaving textbooks at school prevents them from studying at home. Meanwhile, the students said that they felt uncomfortable in social studies lessons because the learning media used was still conventional, making them sleepy and lose focus during lessons. These two views show that the lack of student involvement, both due to internal factors and an uninteresting learning approach, is the main cause of low social studies learning outcomes (Sitti Nurul Hidajati, 2024). Thus, the use of quizizz media is expected to reduce boredom and increase student motivation and activeness in participating in the learning process, especially when the test takes place.

Therefore, researchers are interested in conducting this study to solve these problems by using quizizz learning media. The purpose of this study is to determine whether there are differences in social studies learning outcomes in class VIII students at SMP Negeri 4 Pamekasan between classes that use quizizz media and classes that do not use quizizz media, and to find out how the effectiveness of using quizizz learning media in improving student learning outcomes in class VIII social studies subjects at SMP Negeri 4 Pamekasan. So that researchers formulated the title in the form of the Effectiveness of Quizizz Learning Media on Student Learning Outcomes in Social Studies Class VIII at SMP Negeri 4 Pamekasan.

Method

This study uses experimental quantitative research methods. This method aims to identify the effect of independent variables (treatment) on the dependent variable (outcome) under controlled conditions (Sugiyono, 2024). The type of research applied was a quasi-experiment to determine the effectiveness of using quizizz media on students' social studies learning outcomes. This study used a Nonequivalent Control Group Design so that it could compare the learning outcomes between two naturally formed groups

(classes VIII B and VIII C), where one group received treatment (using quizizz media) and the other group did not. This design involved three stages, namely: administering a pre-test before the treatment, implementing the treatment, and administering a post-test after the treatment was carried out for each group.

The population in this study were all VIII grade students of SMP Negeri 4 Pamekasan. The details of the number of students in class VIII are class VIII A consists of 26 students, class VII B consists of 23 students, and class VII C consists of 24 students. Thus, the total population of VIII grade students was 73 students. The selection of research samples was carried out using purposive sampling technique. It is a technique in determining samples based on certain considerations (Sugiono, 2017). Researchers chose class VIII B and class VIII C as samples in the study because based on the results of the UTS scores are almost the same and the same social studies teacher. The researcher chose class VIII B which amounted to 23 students as the control group, with details of 10 low ability students, 8 medium ability students, and 5 high ability students. While class VIII C which amounted to 24 students was designated as the experimental group, with a composition of 13 low ability students, 7 medium ability students, and 4 high ability students.

This data collection technique uses a test. The test is given to students in the form of multiple choice questions related to social studies material The role of social institutions in the utilization of natural resources & human resources class VIII as many as 20 questions and given to students individually. The tests that will be carried out are the initial test before treatment and the final test after treatment. This study uses parametric statistical tests in the form of Independent Sample t-test and N-gain analysis. The research instrument is a multiple choice test of 20 items. Instrument trials were carried out at SMP Plus Nurul Hikmah Pamekasan. The validity analysis results showed that all items were declared valid based on the Product Moment correlation test, with the value of r count greater than r table (0.361). In addition, the reliability test results using the Cronbach's Alpha formula showed a value of 0.949, which indicates that the instrument has a very high level of reliability.

Results and Discussion

The results showed that there were differences in social studies learning outcomes in VIII grade students at SMP Negeri 4 Pamekasan between classes that used quizizz media and classes that did not use quizizz media. Data from the pre-test and post-test results

indicate that the experimental class using quizizz media experienced a higher increase in learning outcomes compared to the control class.

In the control class, the pre-test and post-test results showed an increase in learning achievement. In the pre-test, the highest score reached 95 and the lowest score was 30, with an average score of 51.5. After the learning took place, in the post-test, the highest score was still 95, but the lowest score increased to 35. The average student score also increased to 64.3. The mean difference between the pre-test and post-test in the control class was 12.8.

The following is a diagram illustrating the lowest and highest scores on the pre-test and post-test of class VIII B (Control Class) :

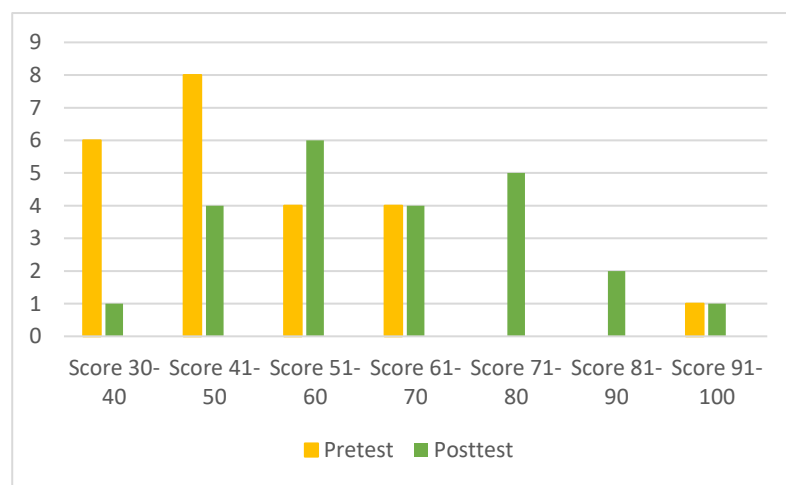


Figure 1. 1 Diagram of Pre-test and Post-test Assessment of Class VIII B at SMPN 4 Pamekasan

In the control class pre-test, students' scores were mostly in the range of 30-50, with only 1 student achieving a score above the Criteria for Achieving Learning Objectives (KKTP). After treatment with conventional learning media, the post-test scores showed a significant increase, with 8 students achieving scores above the Learning Objective Achievement Criteria.

The following is a diagram illustrating the lowest and highest scores on the pre-test and post-test of class VIII C (Experimental Class) :

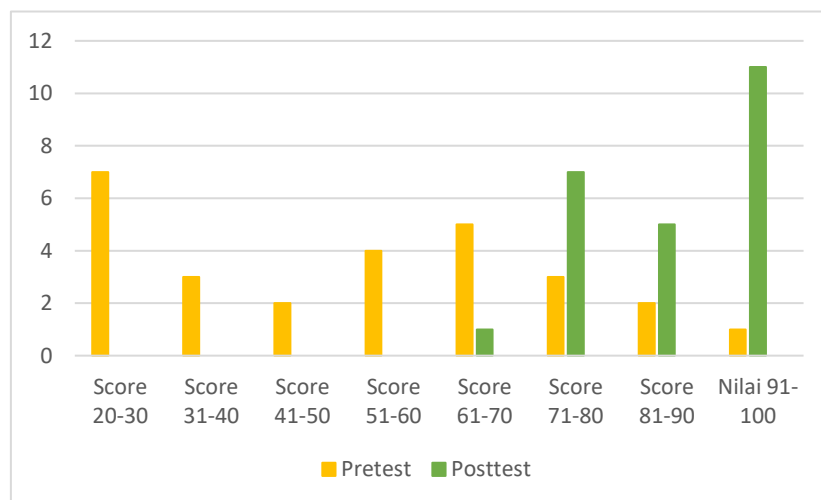


Figure 1. 2 Diagram of Pre-test and Post-test Assessment of Class VIII C at SMPN 4 Pamekasan

In the experimental class pre-test, 7 students were in the score range of 20-30, 3 students in 31-40, 2 students in 41-50, 4 students in 51-60, 5 students in 61-70, 3 students in 71-80, 2 students in 81-90, and 1 student in 91-100. The pre-test score was low because only 6 students achieved scores above the Criteria for Achieving Learning Objectives (KKTP).

After being given a stimulus using quizizz media, the post-test results showed significant improvement, with 1 student in the 61-70 range, 7 students at 71-80, 5 students at 81-90, and 11 students at 91-100. A total of 23 out of 24 students achieved scores above the Learning Objective Achievement Criteria.

From the acquisition of these data to find out whether there are differences in social studies learning outcomes in class VIII students at SMP Negeri 4 Pamekasan between classes that use quizizz media and classes that do not use quizizz media need to be proven using parametric statistical tests with the T Test (Independent Sample T-test), where the results of the T Test (Independent Sample T-test) are as follows:

Table 1. 1 Uji Independent Sample T-Test Results

Independent Samples Test				
		t-test for Equality of Means		
ig.	Levene's Test for Equality of Variances	f	ean	td.
				95% Confidence

						ig. (2-tailed)	Differe nce	Error Differe nce	Interval of the Difference	
									ower	pper
ilai	qual varianc es assum ed	.600	114	6.74 8	5	000	24.819	.678	32.226	17.411
	qual varianc es not assum ed			6.69 7	8.963	000	24.819	.706	32.315	17.322

Based on the independent sample test output table in the equal variance assumed section, it is known that the sig. (2-tailed) value is $0.000 < 0.05$, it can be concluded that there is a difference in the average student learning outcomes between classes that use quizizz learning media and classes that do not use quizizz learning media.

In addition, to determine the effectiveness of the use of quizizz learning media in improving student learning outcomes in social studies class VIII SMP Negeri 4 Pamekasan using statistical tests, namely the N-Gain unit, where the N-gain test results are as follows:

Tabel 1. 2 N-gain Test Results

Descriptives						Statis tic		Error		Std.
Kelas										
N_Gain_P	Eksperi			Mean		81.99				2.97
ersen	men				13				020	
				9	Lo	75.84				
				5% Confidenc e Interval for Mean	wer Bound Up per Bound	70	88.13			
				5% Trimmed Mean		89	82.17			
				Median		78	77.77			
				Variance		30	211.7			
				Std. Deviation		094	14.55			
				Minimum			60.00			
				Maximum			100.0			
				Range			40.00			
				Interquartile Range			32.14			

Kontrol	Skewness		.171	.472
	Kurtosis		-	.918
	1.602			
	Mean		26.32	3.15
	73		651	
	5% Confidence Interval for Mean	Lo	19.78	
		wer Bound	11	
		Up	32.87	
		per Bound	35	
	5% Mean	Trimmed	25.81	
		91		
	Median		28.57	
	14			
	Variance		229.1	
	61			
	Std. Deviation		15.13	
	807			
	Minimum		.00	
	Maximum		62.50	
	Range		62.50	
	Interquartile		23.86	
	Range			
	Skewness		.329	.481
	Kurtosis		.010	.935

From the N-Gain test results above, it shows that the class that used quizizz learning media (experimental class) experienced an increase of 81.9913%, while the class that did not use quizizz learning media (control class) only experienced an increase of 26.3273%. The following is the category of N-Gain Score acquisition.

The interpretation of the effectiveness of N-Gain according to Arikunto (1999) is as follows:

Tabel 1. 3 Interpretation of N-gain Test

percentage (%)	Interpretation
<40	Not Effective
40-55	Less Effective
56-75	Moderately Effective
>76	Effective

Based on this, it can be concluded that classes that use quizizz learning media, with an average increase of 81.9913%, are proven effective in improving student learning outcomes. Meanwhile, classes that did not use quizizz learning media only experienced an average increase of 26.3273%, which was declared ineffective in improving student

learning outcomes. This difference shows that quizizz learning media is much more effective than conventional learning media.

Differences in social studies learning outcomes in students between classes that use quizizz media and classes that do not use quizizz media

According to A. S. Hardjasudarma, learning media includes all tools or means that are able to influence human senses in observing, feeling, and gaining knowledge and experience (Wardana, 2024). Therefore, choosing active, creative, and innovative learning media is very important to create a more engaging learning experience that suits the needs of students. One medium that meets these criteria is quizizz, a digital-based interactive quiz platform that can increase student participation through fun games and competitions. The use of quizizz not only makes the classroom atmosphere more lively and enjoyable, but also helps students to be more focused and motivated in understanding the material. Thus, media such as quizizz has great potential to improve student learning outcomes through active engagement in the learning process.

Quizizz learning media is an interesting alternative to social studies learning, because it features game features such as music, themes, and avatars that can entertain the learning process. The quizizz application allows students to compete with each other and improve their motivation and learning outcomes (Aprianis, 2022).

Learning outcomes are a person's behavior as a result of the learning process. The success of students in learning material at school and expressed in the form of scores obtained from the results of a series of tests of knowledge of certain subjects (Sugiarto et al., 2020). In this study, the focus of the main domain to be achieved is the domain of cognitive learning outcomes. The cognitive domain is in the form of intellectual learning outcomes consisting of several aspects such as remembering, understanding, and applying analyzing, synthesizing, and evaluating. These six levels are gradually represented with the symbols C1, C2, C3, C4, C5, and C6.

Based on the above theory using quizizz learning media is proven to be effective in increasing student engagement in the learning process. Classes using quizizz learning media show a more competitive and fun learning atmosphere, due to gamification features such as avatars, music and point awards. This helps students to be more focused, motivated and able to demonstrate a more optimal understanding of the material. Quizizz learning media is able to create a competitive atmosphere with a more relaxed but still

challenging atmosphere, students can show their understanding of the material more optimally.

The results of using quizizz learning media show that students are more enthusiastic in participating, thus providing a more accurate picture of their level of understanding of the material that has been learned. Therefore, this media can be an innovative alternative in providing an interesting test experience, and increasing student motivation to achieve better learning outcomes.

This quizizz learning media is able to increase the cognitive value of students experiencing an increase in the lowest score from 20 in the pre-test to 70 in the post-test showing that quizizz media not only helps students who already understand the material well, but also supports students with lower initial understanding.

In contrast, classes that did not use quizizz learning media relied more on conventional media, such as textbooks and practice questions without interactive elements. Students' cognitive scores only experienced a slight increase in the lowest score from 30 in the pre-test to 35 in the post-test. So it can be concluded that this approach is less effective in creating a fun and competitive learning atmosphere, because students tend to be more passive, less motivated, and their learning outcomes do not show significant improvement.

This can be proven from the results of the independent samples T test analysis that the resulting significance level is $0.000 < \text{the probability value of } 0.05$, which means that H_0 is rejected and H_a is accepted, which means that there is a real difference between student learning outcomes in classes that use quizizz and classes that do not use quizizz learning media.

Thus, quizizz learning media can be considered as innovative media in modern education, because it is able to improve student learning outcomes both individually and in groups, as well as create a more interactive, enjoyable learning experience, and support the diversity of student needs. This is in line with research by Fitri Maharani which says that the hypothesis test obtained sig results (2 tailed) $0.000 < 0.05$ which shows that the use of the quizizz application can improve the social studies learning outcomes of fourth grade elementary school students. Thus, quizizz as a learning media makes the media innovative, fun, students are excited, and of course learning outcomes increase (Maharani et al., 2023).

The Effectiveness of the Use of Quizizz Learning Media in Improving Student Learning Outcomes in Social Studies Subjects

In the context of modern education, quizizzes have become an innovative medium that supports technology-based learning processes (Mulyati & Evendi, 2020). Based on research by Hidayatullah using quizizz media, students feel more motivated to learn because of the interesting quiz format and the presence of game elements that make the learning process not boring. Therefore, quizizz learning media is very suitable because it can create a fun competitive atmosphere. During the test, it helps reduce student stress in a more relaxed, but still challenging way (Hidayatullah, 2025).

Overall, this analysis shows that the use of quizizz learning media is effective in improving student learning outcomes, both individually and in groups, and can be applied as an innovative learning method in modern education. According to Rountree in Fadilah's article, learning media has six main functions that support learning, namely generating motivation and enthusiasm for learning, reviewing material that has been learned, providing learning stimulus, making students active, providing feedback, and completing assessment (A. Fadilah et al., 2023).

These functions are highly relevant to the use of quizizzes, which directly help to create an atmosphere that motivates students and makes them more active in participating. In addition, it provides instant feedback which greatly assists students in understanding the material better. With the game element present in quizizz, students can feel more relaxed and competitive in doing the questions, which can lower their sense of stress and improve their understanding of the material studied.

From the results of the N-Gain test conducted, it is known that the experimental class using quizizz learning media increased by 81.9913%, while the control class that did not use quizizz only increased by 26.3273%. This difference shows that quizizz learning media is much more effective than conventional learning media. As explained in the research by Nur Yeka Damayanti from the N-gain score data, the increase in learning outcomes in the experimental class that applied quizizz application-based learning media was in the high classification with a percentage of 77%, while the increase in learning outcomes of the control class that applied conventional learning media was in the low classification with a percentage of 31% (Damayanti et al., 2024).

Based on the N-Gain Score category, classes that use quizizz learning media show an average increase of 81.9913%, which is included in the effective category. Meanwhile, the control class with an average increase of 26.3273% was declared ineffective in improving student learning outcomes. Thus, quizizz learning media not only helps students understand the material better but also creates a learning experience that is innovative and relevant to modern educational needs.

Conclusion

The difference in social studies learning outcomes among class VIII students at SMP Negeri 4 Pamekasan between classes that used quizizz media and those that did not shows a significance value (sig.) of 0.000. This value is smaller than 0.05, indicating that the use of quizizz media has a significant effect on students' learning outcomes. This proves that the use of quizizz media has a significant effect on student learning outcomes. This proves that the use of quizizz media has a significant effect on student learning outcomes.

In addition, the effectiveness of using quizizz media is also evident from the results of the N-Gain analysis, where the experimental class experienced an increase in score of 81.99%, much higher than the control class which only experienced an increase of 26.32%. Thus, quizizz media is considered effective in improving student learning outcomes in social studies subjects.

Suggestion

Future It is hoped that future researchers can use quizizz learning media in the future and it is hoped that they can continue research using other technology-based learning media. In addition, they are advised to combine the use of quizizz with other learning methods that are collaborative and practical, so that learning becomes more varied and fun for students.

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