

The Effect of Wordwall-Based Learning Media on Eighth-Grade Students' Social Studies Achievement

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A B S T R A C T

This study used quantitative research with the Experimental method and quasi-experimental design using pretest and posttest. The research sample consisted of 35 students of class VIII.2 of SMP Negeri 90 Jakarta who were determined using the saturated sampling technique. This study involved group A, the control class, who were given learning using conventional methods and group B, the experimental class, who used Wordwall media. Data analysis was conducted through normality tests and hypothesis tests in accordance with the characteristics of the data. The results showed that the average significance value was $0.440 > 0.05$, so there was no significant difference between the experimental group and the control group. Therefore, this study indicates that the use of Wordwall media has not shown a significant effect on the social studies learning outcomes of class VIII.2 students of SMP Negeri 90 Jakarta.

INTRODUCTION

In educational settings, students are expected to not only memorize information but also understand concepts deeply, apply knowledge, and analyze various problems related to everyday life. However, in practice, learning that is still dominated by conventional methods has the potential to make students less active and easily bored, especially if the learning process lasts for a long time. This situation demonstrates the importance of using learning strategies and media that can create a more engaging, interactive learning environment and actively engage students. Research by Dewi (2020) shows that the use of innovative learning media in social studies learning can be one way to improve student engagement and learning outcomes.

Cognitive learning outcomes are an important indicator of students' success in understanding the learning material. In social studies, students are not only required to memorize various information about history, geography, economics, and sociology, but also to understand concepts, connect various social phenomena, and analyze problems that occur in society. Therefore, active student involvement during the learning process is a crucial aspect that requires attention. Sumiyati (2021) found that implementing learning that involves student interaction and activity can improve learning engagement and social studies learning outcomes at the junior high school level.

The problem of low student engagement in learning can also impact learning outcomes. Students who tend to be passive, only listening to teacher explanations, and participating less in questioning, discussions, and expressing opinions will have more limited opportunities to build understanding of the material. Puspitaningdyah and Purwanti (2018) showed that active learning has a strong relationship with social studies learning outcomes. These findings reinforce the importance of creating a learning process that can increase active student engagement.

Based on the results of initial observations during the Field Experience Practice (PPL) at SMP Negeri 90 Jakarta, specifically in class VIII.2, which consisted of 35 students, it was found that the learning process still showed a tendency for passive students. Some students did not have the courage to ask questions or express opinions in front of the teacher. Learning interactions also tended to be dominated by the teacher, while students played more of a listener role. In addition, when given individual assignments to be done at home, some students completed the assignments, while others did not complete them. This phenomenon indicates that student involvement in the learning process was not optimal. This condition has the potential to affect student understanding of the material and achievement of student learning outcomes.

These issues indicate the need for more interactive learning media to increase student engagement. The use of interactive multimedia in social studies learning has shown positive results. Agustina, Roesminingsih, and Jacky (2021) developed interactive multimedia using Articulate Storyline in social studies learning and found that the media had a high level of feasibility and practicality and was able to improve students' cognitive learning outcomes. These research results indicate that interactive media can be an alternative for creating more

engaging social studies learning while supporting the achievement of cognitive learning outcomes.

In line with this, research by Inayah, Maftuh, and Kurniawati Sumantri (2023) showed that the use of interactive media based on Articulate Storyline influenced students' learning interest in social studies. The research was conducted on eighth-grade junior high school students, thus having strong relevance to the characteristics of the research subjects being studied. The use of interactive media provides opportunities for students to gain more engaging learning experiences and not solely rely on verbal explanations from the teacher.

The characteristics of eighth-grade students, who are in the adolescent developmental phase, also need to be considered when selecting learning media. Students at this age tend to be highly curious, interested in new things, and begin to develop more complex thinking skills. Social studies learning, which encompasses a variety of social, economic, geographic, and historical topics, requires media that can present information in an engaging manner while also providing opportunities for students to interact with the learning material. Research by Suhirnan, Abas, and Uge (2022) shows that the use of interactive media can improve students' understanding of social studies concepts and learning outcomes. The results showed an increase in the average pretest score from 42.62 to 77.76 after the use of interactive media.

Thus, based on the empirical conditions found in initial observations and reinforced by the results of previous research, the use of interactive learning media is a relevant alternative to overcome low student engagement and support the improvement of cognitive learning outcomes in social studies learning. Interactive media is expected to create more interesting learning, provide opportunities for students to participate actively, increase interest and understanding of the material, and encourage the creation of a more meaningful social studies learning process.

LITERATURE REVIEW

Understanding Student Learning Outcomes

Constructivist learning is based on the idea that new knowledge acquired by students builds on prior knowledge and experience. From a constructivist perspective, students are not positioned as passive recipients of information, but as individuals who actively construct their understanding through experience, interaction, and reflection. This approach places student activity as a crucial part of the learning process, while the teacher acts as a facilitator, providing support, guidance, and a learning environment that allows students to construct their knowledge independently. This view aligns with research findings on active learning, which show that active student involvement can produce better learning outcomes than learning dominated by lectures or conventional teaching (Freeman et al., 2014; Kozanitis & Nenciovici, 2023; Tatal & Yazar, 2023).

Learning outcomes are the abilities students acquire after participating in the learning process and serve as an indicator of educational success. Learning outcomes relate not only to the ability to remember information but also to understanding, applying, analyzing, and using knowledge in specific contexts. Therefore, the learning process needs to be designed to provide students with meaningful learning experiences and allow for measurable changes in abilities. The use of learning approaches that position students as active participants has been shown to have a positive relationship with academic achievement and learning retention (Freeman et al., 2014; Tatal & Yazar, 2023). Furthermore, the use of digital learning materials also shows potential in improving learning achievement when designed interactively and tailored to student characteristics (Aligo & Prudente, 2025).

Theoretically, these concepts emphasize that learning that involves active student participation and is supported by teacher or peer guidance can help students achieve their optimal learning potential. Active learning enables students not only to receive information but also to explore, problem-solve, discuss, and evaluate the knowledge they acquire. In the context of technology-based learning, this active engagement can be facilitated through digital learning environments and game-based activities that provide students with opportunities for direct feedback. Several studies have shown that game-based and digital game-based learning can have a positive impact on learning outcomes, although the magnitude of the impact may vary depending on the game design, student characteristics, subject matter, and the context in which it is implemented (Tokac et al., 2019; Wang et al., 2022; Lei et al., 2022; Cai, 2025).

Definition of Social Sciences (IPS)

Social Studies, *Ilmu Pengetahuan Sosial* (IPS) learning is a field of study related to human life in various social dimensions. It integrates various aspects of community life, including social interactions, economics, geography, history, and civic life. These characteristics mean that learning IPS cannot simply be done through memorizing facts; it needs to provide students with opportunities to understand the relationship between the concepts learned and everyday phenomena. Contextual and active learning in IPS can help students develop conceptual understanding as well as critical thinking skills and solve social problems.

In this context, the use of interactive learning media can be an alternative to create more active social studies learning. An active approach to social studies shows that student engagement can improve learning outcomes compared to passive learning (Kozanitis & Nenciovici, 2023). Therefore, the integration of digital media and game activities in social studies learning has the potential to strengthen student engagement while providing a more contextual learning experience.

Definition of Learning Media

Learning media are tools used to assist in the delivery of messages, information, and learning experiences from teachers to students. The use of media can help concretize abstract material, provide a more varied learning experience, and create more effective interactions between students and the learning materials. With the development of educational technology, learning media is no longer limited to books, images, or conventional teaching aids, but has evolved into digital media that allows for interaction, feedback, visualization, and direct learning activities.

The effectiveness of digital media on learning outcomes has been supported by various studies. A meta-analysis of digital learning materials shows a positive relationship between the use of digital learning materials and student learning achievement (Aligo & Prudente, 2025). Similarly, research on digital game-based learning shows that the use of digital games can lead to improved learning outcomes compared to non-digital learning methods under certain conditions (Wang et al., 2022).

Interactive digital media also makes learning more engaging because students have the opportunity to participate in hands-on activities. The use of game elements in learning, for example, can increase student engagement, motivation, and cognitive achievement. A meta-analysis on gamification found that it positively impacts cognitive outcomes, motivation, and learning behavior (Sailer & Homner, 2020). Other findings suggest that gamification has a positive effect on academic achievement, although its effectiveness is influenced by design characteristics and the learning context (Bai et al., 2020; Zeng et al., 2024).

Understanding Wordwall Media

Wordwall is a digital learning platform that offers a variety of interactive, game-based activities. Using Wordwall allows teachers to present material or assessments in the form of quizzes, matching pairs, word games, random wheels, and various other activities that can be tailored to learning objectives. These characteristics make Wordwall relevant to learning approaches that position students as active participants.

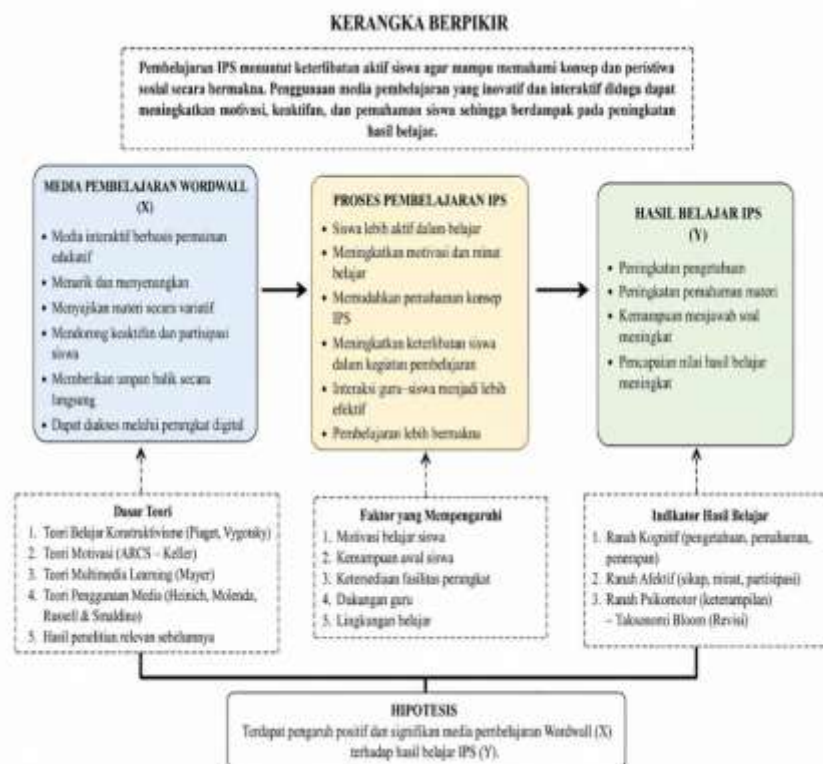
Conceptually, Wordwall shares characteristics with game-based learning and gamification, as the learning process can be combined with game elements, challenges, scoring, and feedback. Meta-analytic research shows that game-based learning has a positive impact on learning achievement in various educational contexts (Tokac et al., 2019; Lei et al., 2022; Wang et al., 2022). Other research comparing game-based learning and gamification also shows that both approaches can impact learning outcomes and motivation, although their effectiveness varies based on implementation characteristics (Zhang & Yu, 2022).

Specifically, research on Wordwalls shows that they can be used as interactive learning tools to enhance engagement and learning outcomes. Hartati et al. (2024), for example, found through a literature review that Wordwalls have the potential to increase student motivation, active participation, and conceptual understanding. Other experimental studies have also shown that the use of Wordwalls in learning can have positive outcomes for learning outcomes in specific subject contexts (Rahmah et al., 2024; Maulana & Widodo, 2025).

Thus, the use of Wordwalls in social studies learning can be seen as an effort to transform learning from a conventional and passive approach to a more interactive one. Game-based activities enable students to gain learning experiences that involve attention, response, competition, feedback, and repetition. However, the effectiveness of digital media is not solely determined by the use of technology, but also by how teachers integrate the media with learning objectives, materials, pedagogical strategies, and student characteristics. This is important because research on game-based learning shows variations in effectiveness across studies and learning contexts (Tokac et al., 2019; Cai, 2025).

Based on the description, the use of Wordwall allows social studies learning materials to be presented in a more varied form of digital activities so that students do not only receive information passively. Through interactive games, quizzes, matching, and exercises, students have the opportunity to interact directly with the material being studied. In addition, the use of Wordwall can create a more enjoyable learning experience, thereby reducing boredom that arises from learning dominated by conventional methods. In social studies learning, interactive media is also expected to help students remember, understand, and apply concepts related to various social phenomena in everyday life. Thus, the use of Wordwall is expected to provide a different and more interesting learning experience compared to conventional learning. Based on this relationship, this study is directed to empirically test the effect of the use of interactive learning media Wordwall on the social studies learning outcomes of class VIII.2 students of SMP Negeri 90 Jakarta.

Figure 1. Research Flow



METHODOLOGY

The experimental method is essentially a quantitative approach that tests the influence of an action on the final outcome in a controlled situation. In an educational context, experiments are often used to demonstrate the impact of new innovations (Sugiyono 2021: 126) . Therefore, this study employed an experimental method to determine the effect of using Wordwall media on the social studies learning outcomes of class VIII.2 students at SMP Negeri 90 Jakarta.

In this study, all members of the population were involved as research samples. Thus, this study used saturated sampling for sampling (Sugiyono 2021: 153) . The researcher selected class VIII.2, consisting of 35 students, as the research sample. The consideration of selecting class VIII.2 was based on the recommended time for field experience practice, and this research was also in accordance with the variables and main objectives of the study. Data collection techniques included pretests and posttests, and data analysis techniques used were descriptive analysis and interfacial analysis using normality tests, homogeneity tests, N-Gain tests, and independent sample t-tests.

RESEARCH RESULT

Table 1. Normality Test Results

Tests of Normality							
Tests	Group 1 and Group 2	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
		Statistics	df	Sig.	Statistics	df	Sig.
Pretest Control	1	.163	17	.200 *	.931	17	.225
Posttest Control	1	.196	17	.080	.900	17	.067
Experiment Pretest	1	.181	17	.142	.926	17	.186
Experiment Posttest	1	.186	17	.121	.892	17	.050
*. This is a lower bound of the true significance.							
a. Lilliefors Significance Correction							

The normality test is used to determine whether the data is normally distributed. In this study, the Shapiro-Wilk test was used because the sample was 35 students. The normality test was used to determine whether the data was normally distributed. In this study, the Shapiro-Wilk test was used because the sample was 35 students. so that the four pretest and posttest results, in the control class group A, the pretest was 0.225 and the posttest of the control class was 0.067 and the experimental class group B, the pretest was 0.186 and the posttest was 0.050, thus it can be concluded that the data is normally distributed.

Table 2. Results of Homogeneity Test
Control Posttest and Experimental Posttest

Levene Statistics	df1	df2	Sig.
.289	1	34	.595

Based on the homogeneity test results table, the Levene Statistic value (Sig.) is 0.595. Because the Sig. value of $0.595 > 0.05$, it can be concluded that the variance of the posttest data for group A and group B is equally homogeneous.

Table 3. Results of Independent t-test Calculation

Group Statistics					
	Group 1 and Group 2	N	Mean	Standard Deviation	Std. Error Mean
Conventional Media and Wordwall Media	1	18	70.39	15,749	3,712
	2	18	74.11	12,653	2,982

Based on the table above, the average (mean) learning outcomes of group A students using the conventional method were 70.39 and the average learning outcomes of group B students using Wordwall media were 74.11. Based on these values, there was a difference in the average (mean) learning outcomes between the two groups where the class using Wordwall had a higher average learning outcome compared to the class using the conventional method.

Table 4. Results of F-Test Calculation

Levene's Test for Equality of Variances		t-test for Equality of Means						
F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Standard Error Difference	95% Confidence Interval of the Difference	
							Lower	Upper

Table 5. Hypothesis Test Results

Convention al Media and Wordwall Media	Equal variances assumed	.289	.595	-.782	34	.440	-3,722	4,762	-13,399	5,95 5
	Equal variances not assumed			-.782	32,49 2	.440	-3,722	4,762	-13,416	5,97 1

Based on the results of the hypothesis analysis, a significance value of $0.440 > 0.05$ was obtained. Therefore, this study was H_0 accepted and H_a rejected. This means there was no significant difference between the learning outcomes (posttest) of both groups A using the conventional method and Group B using the Wordwall media.

DISCUSSION

The use of previously studied material allows researchers to measure students' initial long-term memory abilities through a pretest.

1. The influence of conventional methods on learning outcomes
Research on control group A showed an average pretest score of 74.71 and a posttest score of 70.39. Thus, student learning outcomes decreased by 4.32 points after learning using conventional methods.
2. The Effect of Wordwall Media on Learning Outcomes
In the experimental class group B, the average pretest score was 78.41 and the posttest score was 74.11, resulting in a decrease of 4.30 points. However, interview results showed that students responded positively to the use of Wordwall because social studies learning became more interesting and enjoyable through play activities.
3. Differences in learning outcomes between conventional and Wordwall methods

The average posttest for the conventional class was 70.39, while the class using Wordwall was 74.11. Descriptively, the learning outcomes of students using Wordwall media were 3.72 points higher than those using the conventional method.

CONCLUSIONS AND RECOMMENDATIONS

Based on a quasi-experimental study on the influence of Wordwall media on the social studies learning outcomes of class VIII.2 students of SMP Negeri 90 Jakarta, there was a difference in the average learning outcomes between the conventional method group and the Wordwall group, but the difference was not statistically significant.

1. The average learning outcome for the conventional group was 70.39, while the average for the Wordwall group was 74.11. Descriptively, the Wordwall group had higher learning outcomes.

2. Levene's test showed a value of $0.595 > 0.05$, so both groups had homogeneous variance. The results of the *Independent Samples t-Test* showed a value of $t = -0.782$ and $\text{Sig.} = 0.440 > 0.05$, so H_0 was accepted and H_1 was rejected. This means that there was no significant difference in learning outcomes between the use of conventional methods and Wordwall media.

However, Wordwall can be used as an alternative digital learning media to increase student activity and create more interesting social studies learning.

ADVANCED RESEARCH

This research experienced a change in the school did not allow time for 1 month in this research because of the reasons from the school from the curriculum representative, informed the researcher because the students were approaching the Class Promotion Exam (UKK) the researcher's hope in further research is advised to consider the school's academic calendar so that the implementation of the research runs more optimally. This research also has limitations previously the researcher asked the school for 2 classes but the school curriculum and social studies teachers did not allow 2 classes but this research was divided into 2 groups from the order of absence 1-17 using group A using conventional methods and for absence 18-35 using group B using Wordwall media and this research to compare the 2 groups.

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