ISSN: 3026-0442

Proceedings of the 2nd International Conference on Education, Science Technology and Health (2nd ICONESTH 2024 Universitas Bina Bangsa Getsempena, Des 10-12, 2024, Banda Aceh, Indonesia

EFFECTIVENESS OF EDUCATIONAL GAME MEDIA TO IMPROVE RESULTS LEARNING PANCASILA EDUCATION FOR GRADE I STUDENTS STATE ELEMENTARY SCHOOL 48 BANDA ACEH

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ABSTRACT

This study aims to test the effectiveness of educational game media to improve student learning outcomes in Pancasila education lessons for grade I students at Elementary School 48 Banda Aceh. This study is classified into quantitative research with a pre-experimental design method (pre-experiments design) type one group pre-test and post-test design with treatment given to only one experimental group without using a control group. This study was conducted at Elementary School 48 Banda Aceh. Data collection techniques in this study involved three main methods of testing, and documentation. The data analysis method in this study used SPSS (Statistical Package for the Social Sciences) software version 21. The analysis included validity, reliability, and homogeneity tests. The normality test was carried out using the One-Sample Kolmogorov-Smirnov Test. The analysis included the calculation of Effect Size and N-Gain, as well as hypothesis testing using the t-test. Based on the results of the study and data analysis, it can be concluded that educational game media is effective in improving student learning outcomes in the material on Pancasila symbols and principles. This can be seen from the comparison of pre-test and post-test scores on student learning outcomes, where the pre-test score of 49.63 increased significantly to 84.63 in the post-test. The results of the hypothesis test show that the t-count value is greater than the t-table, which is (2.439> 1.670). So the null hypothesis (H_0) is rejected, which means that the use of educational game media is effective in improving student learning outcomes, with an effect size value of 0.4 with a medium category at a significance level of $\alpha = 0.05$.

Keywords: *Educational Games, Learning Outcomes, Pancasila Education*

INTRODUCTION

Advances in technology and science have brought many changes to aspects of our lives. Various problems can be solved through capabilities and the development of science and technology. Not only does it provide benefits for life, this change has also brought us into an era of increasingly global competition day by day. This requires us to play an active role in global competition to improve and develop the quality of learning in Indonesia.

Expository learning tends to make the classroom atmosphere boring because the teaching and learning process delivered by the teacher is still simple. This also makes students have difficulty in understanding what is conveyed by their teacher. The world of education requires learning media that can facilitate the achievement of the expected goals (Fatehah et al., 2023; Kusmaniar et al., 2023). The use of information technology in the era of globalization requires educators to adapt to the development of science with technology, including utilizing technology in creating a conducive, innovative, and creative learning process (Murtadho, 2019).

Pancasila Education is a learning process formed by teachers to develop moral, ethical and character values in accordance with the nation's ideology (Arifin, 2023). Often in the teaching and learning process in class, many students complain because the learning material presented is less interesting and also boring, so that students do not pay attention to what their teachers say. To overcome this, it is recommended for teachers to utilize unique learning media so that students do not feel bored so that later it will improve student learning outcomes. The existence of various interactive media students will be motivated to be active and able to master the material presented by their teachers.

An important part of the teaching and learning process is the learning media. With the use of learning media, students can more easily master and understand the material presented. Interactive learning media can support teachers in carrying out the learning process in the classroom. This media is useful for increasing student learning motivation, which ultimately impacts improving student learning outcomes and the quality of learning (S. Pamungkas, 2020; Z. S. Pamungkas et al., 2021). Media that can support the learning process include the Wordwall and Roda Putar applications.

Wordwall is a website-based application that allows teachers to create various types of learning media, such as quizzes, matching activities, pairing, anagrams, word scrambles, word searches, grouping, and so on (Noviana et al., 2022; Pinta et al., 2024)). As a digital platform, Wordwall is designed to create fun learning experiences so that students do not get bored and remain

enthusiastic about following the learning process. With its features, Wordwall enables teachers to create quiz-based educational games that can help measure students' level of understanding of the subject matter (Fatimah et al., 2024; Hakim & Rafiq, 2024), including in the implementation of Pancasila Education learning in the classroom.

In addition to Wordwall, the Spinning Wheel media can also be used as an alternative to support interactive learning processes. Spinning Wheel is a learning media that uses a virtual wheel mechanism to randomly display certain questions, tasks, or challenges (Malik et al., 2024; Tristiantari & Wulandari, 2024). This media can be designed according to the needs of the learning material, providing a more interesting and dynamic learning experience for students.

Based on research findings, it is known that the learning outcomes of students at State Elementary School 48 Banda Aceh, especially class I, are relatively low. This is evident from the lack of attention and enthusiasm of students in their involvement in learning activities. The low learning outcomes are caused by the lack of variation in teaching methods. Teachers who do not apply varied learning methods tend to make students feel uninterested. Less creative learning can be an unpleasant experience for students and affect their learning outcomes.

Based on these problems, researchers tried to apply educational game media in the form of Wordwall and Roda Putar to improve student learning outcomes in Pancasila Education subjects. Through the use of Wordwall and Roda Putar, students can be actively involved in the learning process, so they are not just sitting still and listening to the teacher. Student involvement in Roda Putar media is reflected in their activeness in answering questions and solving problems that have been studied.

METHODS

This research is classified into quantitative research with a pre-experimental design method (pre-experiments design) type one group pre-test and post-test design with treatment given only to one experimental group without using a control group. The pre-experimental research in question is a study conducted to obtain information about the influence of educational game media on Pancasila Education lessons on student learning outcomes by discussing the material on recognizing Pancasila symbols and Pancasila principles.(Arikunto, 2018) said that one group pre-test and post-test is a research activity that provides an initial test (pre-test) before being given treatment, and after being given treatment, a final test (post-test) is carried out. The results of the treatment can be known more accurately because they can be compared with the conditions before being given treatment. The one

group pre-test and post-test design consists of one predetermined group. The test is carried out twice, namely before being given treatment to the experimental class called the pre-test and after being given experimental treatment called the post-test.

The research design for one group pre-test and post-test design according to (Sugiyono, 2019) is as follows:

Table 1. Research Design Structure

Pre-Test	*Treatment*	*Post-Test*
O_1	X	O2

Information:
O1 : Pre-Test
X : There is treatment with Educational Game Media
O2 : Post-Test

This research was conducted in State Elementary School 48 Banda Aceh. This research was conducted on August 1 to September 12, 2024.The sampling technique in this study used Simple Random Sampling; strata in the population are not taken into account when selecting samples from the population. Each class in the population has an equal chance of being selected as a sample when using this strategy. The sample used in this study was class I students State Elementary School 48 Banda Aceh has 30 students.

Data collection techniques in this study involve three main methods of testing, and documentation. Tests are used to measure the extent to which students' learning outcomes have improved, providing a quantitative picture of students' skills and understanding through Pre-Test (initial assessment) and Post-Test (final assessment) using practical assessment. Documentation is used to collect and store data related to the learning process and outcomes, including records of activities and materials used during the experiment.

The data analysis method in this study used SPSS software (Statistical Package for the Social Sciences) version 21. The analysis includes validity, reliability, and homogeneity tests. Normality tests are performed using the One-Sample Kolmogorov-Smirnov Test. The analysis includes the calculation of Effect Size and N-Gain, as well as hypothesis testing using the t-test.

The normalized gain formula uses the following method to determine the increase in student learning outcomes:

$$\text{Gain ternormalisasi (g)} = \frac{skor\ posttest - skor\ pretest}{skor\ ideal - skor\ pretest}$$

Table 2. Interpretation of Modified Normalized Gain (G)

Normalized Gain Value	*Interpretation*
-1,00≤g>0,00	There was a decline
g = 0,00	There was no increase
0,00<g<0,30	Low
0,30≤g<0,70	Currently
0,70≤g≤1,00	Tall

The following categories apply to the criteria used to determine the size of the Effect Size:

Table 3. Effect Size Categories

Effect Size	*Category*
d<0.2	Small
0.2<d<0.8	Currently

RESULTS AND DISCUSSION

The use of educational game media in the form of word walls and spinning wheels has proven to be more effective in improving student learning outcomes. In the experimental class, learning is centered on students witheducators act as facilitators who support and implement all the steps that have been determined using educational game media. The findings from the pretest and posttest show the results obtained from the implementation of educational games. The following is a recapitulation of the pretest and posttest scores of class I of State Elementary School 48 Banda Aceh:

Table 4. Recapitulation of Pretest and Posttest Values

Indicator	*Results*	
	Pretest	*Posttest*
Total Value	1191	2031
Average	49.62	84.62

Through this table, a graph can be produced to get a broader histogram picture of the results.pretestAndposttest, here are the pretest and posttest graphs:

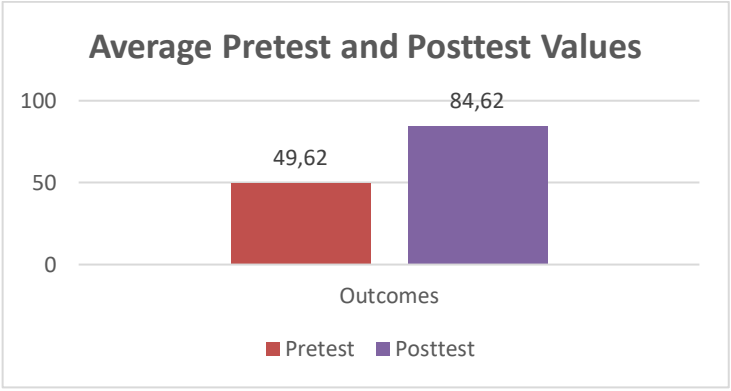

Figure 2. Graph of Pretest and Posttest Average Values

The results of the study showed that the experimental class had an average pretest and posttest score as seen in the graph above. The average pretest score was 49.62, and the average posttest score increased to 84.62. It can be seen from the results of the pretest and posttest of the experimental class which experienced a significant increase, that the use of educational game media can improve student learning outcomes.

Normality Test (One-Sample Kolmogorov-Smirnov Test)

Traditional requirement tests or assumption tests for data analysis include normality tests. This means that the normality of the distribution of research data must be checked before conducting statistical analysis to test the hypothesis, namely regression analysis. Data that is regularly dispersed is considered good data. The Kolmogorov-Smirnov normality test relies on the following principles to draw conclusions: If the significance value (Sig.) of a study is greater than 0.05, then the data is considered to be regularly distributed; and if the Sig. value is less than 0.05, then the research data is not normally distributed.

Table 5. Normality Test (One-Sample Kolmogorov-Smirnov Test)

		Unstandardized Residual
N		63
Normal Parameters[a,b]	Mean	.0000000
	Std. Deviation	2.92713942
Most Extreme Differences	Absolute	.199
	Positive	.076
	Negative	-.188
Test Statistic		.188
Asymp. Sig. (2-tailed)		.188[c]

The significance value of the Asymp variable of product quality. Sig (2-tailed) is higher than 0.05, which is 0.188, according to the SPSS output table produced. The data is normally distributed, according to the conclusion drawn from the normality test Kolmogorov-Smirnov as explained above.

Homogeneity Test

After the data is normally distributed, a homogeneity test is performed. Fisher's test is used as a homogeneity test. The appendix shows the results of the data homogeneity test calculation. Homogeneous samples if Fcount < Ftable Ha are declared accepted; non-homogeneous samples if Fcount > Ftable Ha are declared rejected. This criterion is used to determine whether the data is homogeneous or not. Table 6. below shows the results of the homogeneity test for the pretest and posttest:

Table 6. Results of Pretest and Posttest Homogeneity Tests

Statistics	*Pretest*	*Posttest*
Fcount	2,1846	1.8376
Ftable	3,9984	3,9984
Conclusion	Homogeneous	Homogeneous

The results of the homogeneity test for the pretest and posttest are shown in Table 12 above. The pretest produced an Fcount value of 2.1846, while the posttest produced an Fcount of 1.8376. The Fcount <Ftable result, it can be said that both samples have the same variance and are homogeneous.

Hypothesis Test (t-Test)

It has been determined through the necessary data analysis tests that the test result data for each class is homogeneous and regularly distributed. Thus, data analysis can be continued to the next stage, namely hypothesis testing, to ensure whether or not there is an influence. With the following provisions, the t-test is used to conduct this hypothesis test: Ha is accepted if tcount> ttable and rejected if tcount <ttable. Table 7. below shows the results of the hypothesis test:

Table 7. Hypothesis Test Results

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	49.348	11.343		1.988	.005
	Educational Media	.087	.186	.058	2.439	.000

a. Dependent Variable: Learning Outcomes

The table shows that the results of the hypothesis test show a t-count value greater than t-table, namely (2.439 > 1.670). So Ho is rejected, meaning that based on the results of the hypothesis test, the use of educational game media has a significant effect on student learning outcomes.

N-Gain

Learning outcomesstudents are marked with gain values, gain is the difference between posttest and pretest values, gain shows an increase in student abilities after the learning process. The normalized NGain test is conducted to show how much student learning outcomes have increased after participating in learning with educational game media. The calculation of N-Gain is the difference between the posttest and pretest values divided by the difference between the highest value and the pretest value. The following are the results of the N Gain score in the experimental class:

Table 8. N-Gain Experimental Class

	N	Minimum	Maximum	Mean	Std. Deviation
Ngain_Score	30	.75	.100	.8462	.24902
Ngain_Persen	30	75.00	100.00	84.6286	24.90274
Valid N (listwise)	30				

The table shows the results of the N-Gain Score mean value of 0.8462, this value is greater than 0.3 (0.84>0.3) so the category obtained is high/high effectiveness. N-Gain Percent mean value84.6286, the value is greater than 76% (84%>76%), then it is interpreted as effective. So it can be concluded that the use of educational media to improve student learning outcomes has proven effective in experimental classes and is in the high category.

Effect Size

In this study, effect size is used to measure how well one variable affects another variable. The efficacy of using educational game media on learning outcomes is assessed using the Effect Size test. The following table shows the results of the Effect Size calculation:

Table 9. Effect Size Results

Average Gain	*SD*	*Effect Size*	*Category*
84.6286	24,9027	0.4	Currently

The results of the effect size calculation show that the use of educational game media can be used to improve student learning outcomes, with a value of 0.4 indicating the effectiveness of this model in providing a moderate effect on student learning outcomes.

The results of this study indicate that the use of educational media Wordwall and Roda Putar significantly improves student learning outcomes in the Pancasila Education subject in class I of State Elementary School 48 Banda Aceh. The use of these two media successfully creates a fun and interactive learning atmosphere, which motivates students to be more active in understanding the values of Pancasila.

The Wordwall used in this study provides a game-based learning experience that presents Pancasila Education material in the form of interactive questions that are adjusted to the level of understanding of class I students. Interesting features such as "memory match" or "word search" games on the Wordwall allow students to learn in a fun way. Every time a student answers a question correctly, they get direct feedback, which increases their engagement and strengthens their understanding of Pancasila concepts.

Spinning Wheel, as another game media used, has proven effective in increasing student enthusiasm. In each learning session, the spinning wheel is used to determine the material or Pancasila values to be discussed, providing an element of surprise and excitement. By spinning the wheel, students feel more challenged to participate in learning and are more interested in answering questions determined by the spinning wheel. An important element in this game also encourages students to be more actively involved in the learning process.

The use of these two media has resulted in significant improvements in student learning outcomes. The test result data showed a clear improvement between pre-test and post-test scores, with higher post-test scores. This indicates that student learning outcomes have improved after using Wordwall and Spinning Wheel as learning media.

Figure 3. Documentation of Educational Game Media Implementation

As additional evidence, documentation photos of the use of this educational game media in the classroom show students who are active and enthusiastic in participating in learning. In the photos, students are seen happily involved in interactive games using Wordwall on the projector screen and spinning the wheel to determine the material to be studied. These activities show that this educational game media has succeeded in improving student learning outcomes and increasing student enthusiasm in participating in learning.

CONCLUSION

This study shows that the use of educational game media in Pancasila Education learning is effective in improving the learning outcomes of grade I students of State Elementary School 48 Banda Aceh. Based on the results of the study and data analysis, it can be concluded that this media has a positive impact on students' understanding of the material on the symbols and principles of Pancasila. This can be seen from the comparison of pre-test and post-test scores on student learning outcomes, where the pre-test score of 49.63 increased significantly to 84.63 in the post-test. The results of the hypothesis test show that the t count value is greater than the t table, which is (2.439> 1.670). The null hypothesis (H_0) is rejected, which means that the use of educational game media is effective in improving student learning outcomes. With an effect size value of 0.4, it is included in the moderate category at a significance level of $\alpha = 0.05$.

ACKNOWLEDGEMENT

The authors would like to express their sincere gratitude to all those who have supported this research.

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