The Effect of Wordwall-Based Evaluation Tools on Science Learning Outcomes of Grade VI Elementary School Students

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ABSTRACT: The purpose of this study was to determine the effect of wordwall-based evaluation tools on science learning outcomes of grade VI elementary school students. This type of research is quantitative using an experimental method with a One Group Pretest-Posttest Design research design. The subjects of this study were VI grade students of SD Negeri 018 Bagan Jaya as an experimental class. The results of this study showed that the pretest data obtained an average of 51.60 and the posttest results were 79.20. The results of hypothesis testing using the Paired Sample T Test test obtained a significant value (2-tailed) of $0.000 < (\alpha = 0.05)$, so there is a significant difference between the pretest and posttest scores, so Ho is rejected and Ha is accepted. The results obtained from the gain score of 59% are included in the category quite effective in improving learning outcomes. Then to see how much influence is given, it is calculated by the R Squre test which is 71.3%. So it can be concluded that there is an effect of wordwall-based evaluation tools on the science learning outcomes of grade VI elementary school students.

Keywords: Evaluation, Wordwall, Learning Outcomes

INTRODUCTION

Technological developments in the field of education have made many updates to improve the quality of learning, and teachers also need to make updates in the teaching and learning process, one of which is in the use of learning evaluation tools to be used. Learning evaluation is an activity carried out by the teacher to determine the ability of students to the material that has been taught. The purpose of learning evaluation is to measure, find out how far and how deep the subject matter has been mastered or understood by students, so that from the evaluation results it can be seen between students who have achieved learning objectives and those who have not achieved learning objectives (Auliya, 2021).

Based on observations at Bagan Jaya State Elementary School 018 where from the results of an interview with one of the teachers in class VI that the teacher said that at the school it was very rare for teachers to use technology in conducting evaluations, the process of evaluating or assessing student learning outcomes at school carried out by teachers tends to use conventional or paper-based methods. The low learning outcomes of students due to the lack of teacher variation in conducting evaluations so that learning feels monotonous and boring for students, besides that the use of evaluation tools through written tests (pencil and paper tests) has weaknesses, namely questions from printing (photocopies) sometimes the results are blurry, the writing is less clear, and less attractive, and the quality is still low so that it has an impact on students, namely difficulty in reading questions and time consuming when correcting these questions. In addition, it requires a large cost in duplicating questions, making it less economical (Destiana et al., 2020). Teachers also need a long time to correct the answers of students, so that the scores that students do cannot be known directly. In addition, the possibility of cheating by students by cheating or sharing answers with their friends.

Based on this, technology-based evaluation tools that can be utilized in conducting learning evaluations are one of them wordwall. Wordwall can be interpreted as a website that we use to create fun quiz-based games. This website is suitable for designing and reviewing a learning assessment (Fikriansyah & Layyinnati, 2022). Another uniqueness in wordwall compared to other online educational game applications is that teachers can see the level of difficulty per question, and there is a percentage value so that the most difficult to easiest questions can be known (Gandasari & Pramudiani, 2021). Wordwall is a website that provides various game features and educational quizzes, on the other hand, the use of this quiz game-based evaluation tool can make it easier for students to do evaluation questions like students are playing, and in using this wordwall it can make it easier for teachers to accumulate student scores because scores can appear automatically. With the use of wordwall as an evaluation tool, it is hoped that it can add variety in conducting evaluations, besides that it can also facilitate teachers in conducting more practical assessments, so that it is hoped that there will be an increase in student learning outcomes.

METHOD

This type of research is experimental research with a quantitative approach (Sugiyono, 2019). The research design used by researchers is One Group Pretest-Posttest Design. Researchers will form one group, namely the experimental group (the group that gets treatment using the wordwall website as an evaluation tool).
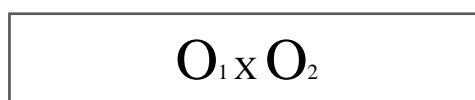
$$O_1 \ X \ O_2$$

Figure 1. Research Design One Group Pretest-Posttest Design

O_1 = Pretest value (before treatment)
O_2 = Posttest value (after treatment)
X = Wordwall website treatment in the experimental class

The sample in this study were VI grade students of SD Negeri 018 Bagan jaya in the odd semester of the 2021/2022 school year, totaling 25 students. The data collection technique in this study was carried out with a test question instrument. A test is a series of questions used to measure the skills, knowledge, intelligence, abilities, and talents of students by providing a set of questions or tasks that are planned to have provisions or answers that are considered correct (Ulfah & Suryantoro, 2021). This test is conducted to obtain quantitative data, namely by collecting data from student learning outcomes in science learning on theme 1 "Save Living Things" subtheme 1 "My Best Friend Plants" grade VI Elementary School. The initial test (pretest) is carried out before learning activities are given to test the level of students' knowledge of the material to be delivered. While the posttest (final test) is carried out after the learning process begins to assess the ability of students after treatment.

RESULT AND DISCUSSION

This research was only conducted in one experimental class, the use of wordwall in this study was carried out for 3 meetings. At the beginning of the meeting a pretest was conducted, after the teaching and learning process wordwall was used as an evaluation tool at the end of each lesson. After all meetings were completed, students were given a posttest to recognize the learning outcomes of students after being treated using wordwall.

Furthermore, calculations were carried out on the results of the pretest and posttest in the experimental class. This is done to see the science learning outcomes of grade VI students. The following are the statistical results of the comparison of the minimum, maximum, average, and standard deviation values of the pretest and posttest of the experimental class with the help of SPSS version 25.

Table 1. Descriptive Statistical Analysis Results

Descriptive Statistic					
	N	Minimum	Maximum	Mean	Std. Deviation
Pretest	25	30	70	51.60	13.973
Posttest	25	60	95	79.20	11.057
Valid N (listwisw)	25				

Source: Results of Data Processing by Researchers

Based on table 1 above, there are pretest and posttest scores with an average of 51.60 and 79.20. This shows that there is a difference between the pretest and posttest scores in the class. However, to prove whether the difference is significant or not, the researchers conducted data processing with the help of SPSS version 25. The tests to be carried out are hypothesis testing, gain score test, and R Square test. Hypothesis testing is carried out to determine whether the use of wordwall-based evaluation tools is effective in improving the science learning outcomes of VI grade students of SD Negeri 018 Bagan Jaya with a significant level of 5%.

Table 2. Paired Sample T Test Results

Paired Samples Test								
Paired Differences								
					95% Confidence Interval Of the Difference				
		Mean	Std. Deviation	Std. Error Mean	Lower	Upper	T	df	Sig(2-tailed)
Pair 1	Pretest-Posttest	-27.600	7.517	1.503	-30.703	-24.497	-18.359	24	0.000

Source: Data Processing by Researchers

Based on table 2 above, the sig (2-tailed) value is 0.000 when compared to the significant level, the result is sig <0.05 which means H_o is rejected and H_a is accepted, it can be concluded that there is a significant difference between pretest and posttest scores. So that the use of wordwall website as an evaluation tool in science learning is effective in improving the learning outcomes of grade VI elementary school students. Furthermore, the gain score test was conducted to measure the improvement that occurred before and after learning. The calculation of the gain score is assisted by using SPSS version 25. The following are the results of the gain score test between the pretest and posttest results in the experimental class.

Table 3. Gain Score Test Results

	g	Pesentase g (%)	Std. Error Mean
Kelas	0.59%	59.0%	3.04953

Source: Data Processing by Researchers

Based on table 3 above, it can be seen that the gain score is 59%, so it can be concluded that the use of wordwall-based evaluation tools in science learning is quite effective in improving the learning outcomes of grade VI elementary school students. Furthermore, the R Squre test was conducted to see how much influence the independent variable had on the dependent variable. The calculation of R Square is assisted by using SPSS version 25.

Table 4. Test Coefficient of Determination (R Square)

Model Summary				
Model	R	R Square	Adjusted R Squre	Std. Error of the Estimate
	845[a]	0.713	0.701	7.640

Source: Data Processing by Researchers

Based on table 4 above, it can be seen that the R Square result is 71.3%. This shows that the influence of the wordwall-based evaluation tool variable on the student science learning outcomes variable is 71.3%, while the remaining 28.7% is influenced by other variables not examined in this study.

DISCUSSION

Based on the research that has been carried out, it can be concluded that student learning outcomes in science subjects in grade VI elementary schools that use wordwall as a learning evaluation tool are better than conventional methods. According to (Slameto, 2013) there are 2 things that affect student learning outcomes, which consist of external factors (from outside the student) and internal factors (from within the student). External factors include: 1) facilities in learning such as learning media, laboratories, stationery and others. 2) time used for learning includes order and discipline in the learning process. Internal factors include: 1) physical factors, this factor comes from the conditions experienced by students, such as: physical health, good nervous system, good hearing, and so on. 2) psychological factors, factors that come from mental or psychiatric conditions, such as: intelligence, interest, talent, concentration, attention and so on.

The use of learning evaluation by utilizing creative and innovative technology will result in a pleasant learning atmosphere. With a pleasant classroom atmosphere, it will improve student learning outcomes. If students' interest in learning increases, their learning outcomes will also increase. A technology-based evaluation tool that can be utilized in conducting learning evaluations is wordwall. According to (Sentani et al., 2022) wordwall is a website that can be used both as learning media and as an interesting evaluation tool for students. This wordwall is effectively applied to learning, especially science subjects in elementary schools, besides that, this wordwall website provides encouragement to students in completing quizzes, which will help improve overall learning outcomes for students who use it (Agusti & Aslam, 2022).

The results of the t test obtained sig (2-tailed) of 0.000 <0.05, where Ha is accepted and Ho is rejected, meaning that the effect of wordwall-based evaluation tools is effective for improving science learning outcomes of grade VI elementary school students. Furthermore, to see the effectiveness of the wordwall-based evaluation tool on learning outcomes, the gain score test was carried out, the results obtained were 59% including the moderately effective category. Then to see how much influence is given, it is calculated by the R Square test, the result obtained is 71.3%.

The results of this study are also in line with research conducted by (Sari et al., 2021), the results of his research concluded that there was an effect of using android-based quiz game media (wordwall) on the learning outcomes of X MIPA class students at SMA N 2 Lubuk Basung. Likewise, research conducted by (Savira et al., 2022), the results of his research concluded that there was an effect of wordwall on the learning outcomes of grade IV science at SDN Rambutan 02, this wordwall made students more excited and passionate about carrying out online learning. So it can be concluded that the effect of wordwall-based evaluation tools on grade VI elementary school science learning outcomes is effective in improving learning outcomes.

CONCLUSION

Based on the results of the analysis and discussion in this study, it can be concluded that the effect of wordwall-based evaluation tools has a significant effect in improving the science learning outcomes of grade VI elementary school students. This is shown in the results of the Paired Sample T Test hypothesis test obtained a sig value (2-tailed) of 0.000 <0.05, where Ha is accepted and Ho is rejected. In addition, judging from the results of the pretest and posttest, the average pretest score obtained. Next, to see the effectiveness of the wordwall-based evaluation tool on learning outcomes, the gain score test was carried out, the results obtained were 59%, including the moderately effective category. Then to see how much influence is given, it is calculated by the R Square test, the result is 71.3%. So it can be concluded that the effect of wordwall-based evaluation tools is effective in improving science learning outcomes in grade VI elementary schools.

Based on the research conducted, the researcher provides several suggestions and recommendations as follows:
a. In providing facilities both tablets and school computers should require careful preparation, besides that researchers must also be prepared with all the technical obstacles that occur.

b. Researchers who will use the wordwall website should require a good and smooth internet network so that the evaluation process does not occur network constraints.
c. For schools, especially teachers, to be able to apply wordwall-based evaluation tools so that the evaluation is not monotonous anymore.

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