

Application of the Truth or Dare game-Based Accelerated Learning Model On Physics Material To Students' Critical Thinking Skills In Class XI Ma

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ABSTRACT

This study aimed to determine the effect of the Accelerated Learning model based on the Truth or Dare game on the critical thinking skills of students in class XI Mas Ulumuddin. This type of research is a Quasi Eksperiment with a nonequivalent control group design. The design. Sampling technique with purposive sampling technique, the sample of this study is class XI-D students as an experimental class and class XI-C as a control class. Data collection techniques in this research use test and non-test techniques (questionnaires). Meanwhile, data analysis uses prerequisite tests which include normality and homogeneity tests, hypothesis tests, and student response lift analysis. In the results of the student response questionnaire, there was an average percentage of about 71% who had attractive criteria. The results showed that the average value of the experimental pretest was 30.375 and the value of the control pretest was 28, while the average value of the experimental posttest was 74.625 and the value of the control posttest was 66.500. Based on the hypothesis test using an independent sample test on the pretest, a sig (2-tailed) result of 0.046 is smaller than the significance level of 0.05, meaning that H_0 is accepted. The results of this study show that the application of the Truth or Dare game-based Accelerated Learning model on static fluid material affects students' critical thinking skills.

Keywords: Accelerated Learning, Truth or Dare Games, Critical Thinking

1. INTRODUCTION

In the 21st century, human resources cannot keep up with ancient standards because technology is starting to replace human resources. This is evidenced by the application of technology in the form of sophisticated software that provides the needs to facilitate human life (Pratiwi et al., 2019). In the results of observations that have been where the school only has scientific majors that study the subjects of chemistry, physics, and biology. The learning method used is still dominant in conventional methods. This makes students less interested in learning physics lessons that they consider difficult. The average score of physics is still around 45 while the desired KKM score is 75.

The use of the Accelerated Learning model is considered very effective to increase student learning effectiveness. In accordance with the opinion (Sudarmaji & Maarif, 2021) where the Accelerated Learning learning model includes a model that can be used to make the results of the teaching and learning process very good for students. According to (Kusuma et al., 2020). The Accelerated Learning Model is a teaching model that allows students to learn naturally by using learning techniques that match their character so that they will feel that learning is fun, effective, and fast. The Accelerated Learning model has been researched to increase effectiveness in learning. This can be observed from the results of several studies on the Accelerated Learning model. In research (Hafni et al., 2021). Critical Thinking Skills using Accelerated Learning states that AL learning can be used as one of the learning techniques to improve students' critical thinking skills by providing opportunities for students to learn first and then discuss with teachers and peers. After that, students are asked to conclude the material learned in the class discussion session so that interaction between teachers and students is also established as well as students with students, so that this has a positive impact on students' critical thinking skills. In order to train critical thinking skills in students, a teacher needs to develop media and learning models (Vijayta & Isnawati, 2021). Critical thinking indicators According to (Karim & Normaya, 2015) explain the indicators in critical thinking as follows:

Table 2. 1 Indicators of Students' Critical Thinking Ability

General Indicators	Indicators
Interpret	Understand the problem indicated by writing down the important things stated in the problem
Analyze	Identify relationships between statements, questions, and concepts given in the problem
Evaluate	Using the right strategy in solving problems
Deduce	Making conclusions

Learning media is a means used to support and facilitate students in understanding and deepening the material. Learning media that is used appropriately can help students learn actively in the classroom. According to (Meilan et al., 2017) Truth or Dare media is a learning strategy that invites students to learn actively and aims to make students cooperate with each other in learning and foster creativity. Furthermore (Cahyaningrum & Lutfiati, 2020) explained that the Truth or Dare Game is a solution to restore motivation and eliminate student boredom during the learning process. Truth or Dare games are able to hone and measure students' comprehension skills through cards chosen by students.

This study aims to determine the effect of the Truth or Dare game-based Accelerated Learning model on the critical thinking skills of grade XI MAS Ulumuddin students.

2. METHOD

The type of research used in this study is quantitative research with quasi-experimental methods or pseudo-experiments. The technique used is the sampling technique (purposive sampling) while the sample selection in this study is class XI C students as a control class as many as 20 female students, and class XI D students as an experimental class as many as 20 female students. Data collection techniques in the form of tests (pretest, posttest) consisting of 10 questions that have been tested for validity, reliability tests, differentiating power tests, difficulty levels and non-tests in the form of questionnaires. In data analysis using prerequisite tests which include normality and homogeneity tests, hypothesis tests, and student response lift analysis. The research design uses quasi-experiments in the form of Nonequivalent Control Design, (Sugiyono, 2017) which can be described as follows:

Table 1 Research Design

Class	Pretest	Treatment	Posttest
Experiment	0 ₁	X	0 ₂
Control	0 ₃		0 ₄

Source: (Sugiyono, 2017)

3. RESULTS AND DISCUSSION

Based on research that has been conducted in Mas Ulumuddin Class XI Odd Semester of the 2023/2024 Academic Year, this research is quantitative, namely with data obtained in the form of numbers analyzed with Microsoft Excel and SPSS Version 22, the data collected by researchers is in the form of data on critical thinking skills of grade XI-C and XI-D students. The learning process that takes place in the Experimental class is using the Accelerated Learning learning model based on the Truth or Dare Game while the learning process in the control class uses a direct learning

model. Data obtained using test instruments to students in the form of pretest and posttest. The descriptive table of students' critical thinking skills is as follows.

Table 2 Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Pre Ex	20	17.5	42.5	30.3	7.74
Post Ex	20	50.0	90.0	74.6	12.4
Pre Kon	20	17.5	40.0	28.0	5.65
Post Kon	20	45.0	85.0	66.5	12.4
Valid N	20				

Source: SPSS 22

Based on the Table, it is found that the minimum value of the experimental class pretest is 17.5 and the maximum value is 42.5 while the minimum value of the control class pretest is 17.5 and the maximum is 40. Based on the Table, the minimum posttest value of the experimental class is 50 and the maximum value is 90, while the minimum value of the control class posttest is 45 and the maximum is 85. Based on the acquisition of Pretest and Posttest scores for experimental and control classes, it can be seen that the learning process using the Accelerated Learning model based on the Truth or Dare game on satatis fluid material affects students' critical thinking skills.

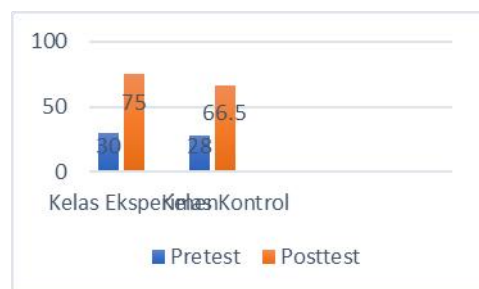


Figure 1 Average Scores of Students of the Experimental Class and Control Class

Normality Test Pretest Experimental Class and Control Class

A normality test is performed to find out whether the data obtained is normally distributed or not. Normality analysis technique using SPSS application version 22. Where the test criteria are:

If Sig < 0.05 then H_0 is rejected or not normally distributed

If Sig > 0.05 then H_0 is received or the data is normally distributed.

The following are the results of the experimental class and control class pretest normality tests:

Table 3 Normality Test Results Pretest Experimental Class and Control Class

Class		Shapiro-Wilk		
		Statistics	Df	Sig.
Pretest	Pretest Experiment	.943	20	.268
	Pretest Control	.970	20	.763

Source: SPSS 22

Based on Table 3 experimental class pretest data, the sig value is $0.268 > 0.05$, then the experimental class pretest data is normally distributed and the control class pretest data is $0.763 > 0.05$, then the control class pretest data is normally distributed. The graph of the results of the pretest normality test in the experimental class is shown in the figure as follows:

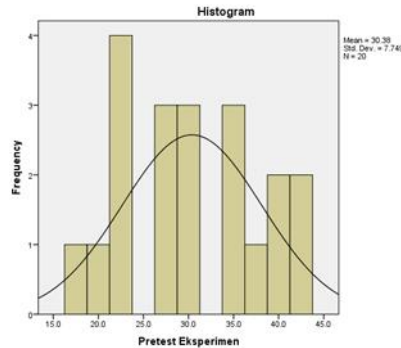


Figure 2 Ekperimental Class Pretest Normality Test

For the graph of the pretest normality test results in the control class are shown as follows:

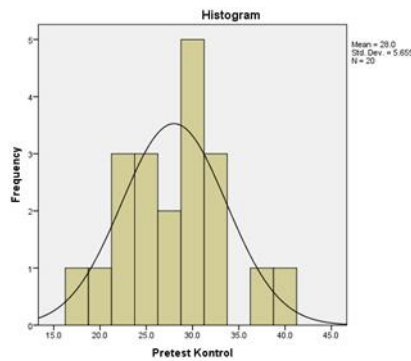


Figure 3 Control Class Pretest Normality Test

Homogeneity Test Pretets Kleas Experiment and Control Class

After the Normality test is carried out, the homogeneity test is carried out. The homogeneity test is carried out to find out whether the data obtained is homogeneous or not. The results of this homogeneity test calculation use the SPSS 22 program with the Lavebe Technique and a signification level of 0.05. The provisions of the homogeneity test are if the significant value is $>$ hence the data of the homogeneous distribution. If the significance value $<$ hence the distribution of data is not homogeneous.

Table 4 Test Results of Pretest Pretest Experimental Class and Control Class

	Levene Statistic	Sig.
Pretest Based on Mean	2.82	.101
Based on Median	2.45	.126
Based on Median and with adjusted df	2.45	.126
Based on trimmed mean	2.86	.099

Source: SPSS 22

Based on the table, it is found that the significance value of the pretest is 0.101, which means that the significance value is greater than 0.05, it can be concluded that the data obtained are homogeneously distributed.

Hypothesis Test Pretest Experimental Class and Control Class

The hypothesis test used in this study is an independent sample test using SPSS 22. Hypothesis testing is done using t-tests. The t-test aims to determine whether or not there is a difference given to the independent variable against the dependent variable.

Table 6 Experimental and control class pretest t-test results

		t-test for Equality of Means		
		T	Df	Sig. (2-tailed)
Pretest	Equal variances assumed	1.107	38	.275
	Equal variances not assumed	1.107	34.764	.276

Source: SPSS 22

Based on the data in the table, it shows that there is no significant difference between students' critical thinking skills in the experimental class and the control class, because the sig score. (2-tailed) has a value of 0.275 > 0.05. So that the initial ability of students in both classes is the same.

Posttest Normality Test Experimental Class and Control Class

The normality test aims to test whether the data obtained is normally distributed or not. As for the procedure for testing the normality of posttest data, using the Shapiro Wilk Technique. Where the test criteria are:

If Sig < 0.05 then H_0 is rejected or not normally distributed

If Sig > 0.05 then H_0 is received or the data is normally distributed.

The following is a table of posttest normality test results that have been obtained in the experimental class and control class.

Table 7 Posttest Normality Test Results of Experimental Class and Control Class

Class		Shapiro-Wilk		
		Statistics	Df	Sig.
Posttest	Posttest Experiments	.927	20	.137
	Posttest Control	.923	20	.111

Source: SPSS 22

Based on the table, the experimental class posttest data has a sig value. 0,137 > Sig. 0,05 then the posttest data is normally distributed. The control class posttest data has a sig value. 0,11 > sig. 0,05 then the posttest data is normally distributed. The graph of posttest normality test results in the table below:

Figure 4 Experimental Class Posttest Normality Test

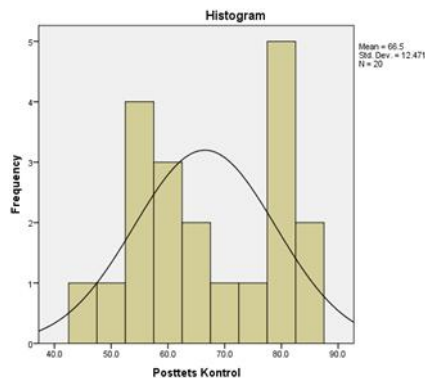


Figure 4 Control Class Posttest Normality Test

Posttest Homogeneity Test Experimental Class and Control Class

The homogeneity test is carried out to determine whether the posttest data obtained is homogeneous or not. The results of this homogeneity test calculation use the SPSS 22 program with the Lavene Technique and a significant level of 0.05. The provisions of the homogeneity test are if the value of significance is $>$ hence the data of the homogeneous distribution. If significant values $<$ hence the distribution of data is not homogeneous.

Table 8 Posttest Homogeneity Results of Experimental Class and Control Class

		Levene Statistic	Sig.
Posttest	Based on Mean	.058	.811
	Based on Median	.074	.787
	Based on Median and with adjusted df	.074	.788
	Based on trimmed mean	.086	.771

Source: SPSS 22

Based on the table, it is found that the posttest signification value is 0.811, which means that the signification value is greater than 0.05. It can be concluded that the data obtained are homogeneous.

Test Hypothesis Posttest Experimental Class and Control Class

Hypothesis testing is used to determine whether there are differences in student abilities before applying the Accelerated Learning model based on the Truth or Dare Game to static fluid material to students' critical thinking skills. Test the Hypothesis used SPSS 22. Hypothesis testing is done using t-test. The statistical hypotheses in this study are:

H_0 : There is no effect of the Accelerated Learning model based on the Truth or Dare game on static fluid material on students' critical thinking skills.

H_a : There is an influence of the Truth Or Dare game-based Accelerated Learning model on static fluid material on students' critical thinking skills

Table 9 Independent Test Results Sample t Test Posttest Experimental Class and Control Class

		t-test for Equality of Means		
		t	Df	Sig. (2-tailed)
Posttest	Equal variances assumed	2.065	38	.046
	Equal variances not assumed	2.065	37.999	.046

Source: SPSS 22

Based on the table shows that there is a significant difference from posttest results between students' critical thinking skills in the experimental class and the control class. This can be seen from the value of Sig. (2-tailed) is 0.046 smaller than the significant level of 0.05 which means that the hypothesis (H_0) is rejected and the alternative hypothesis (H_a) is accepted. So it can be concluded that there is an influence of the Truth or Dare game-based Accelerated Learning model on static fluid material on students' critical thinking skills.

4. CONCLUSION

Based on the results of the research and the results described earlier, it can be concluded that there is a significant influence on the Truth or Dare game-based Accelerated Learning model on static fluid material on students' critical thinking skills, can be seen in the results of the average Pretest score in the experimental class of 30,375 and in the control class of 28. In the average posttest results of experimental class students 74.625 and in the control class 66,50 where there was an increase in students' critical thinking skills after learning the Accelerated Learning model. Further evidence can be proven by Sig.(2-tailed) $0.046 < 0.05$ on the t-test of critical thinking skills, where H_0 is rejected H_a is accepted.

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