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The Influence of Quantum Teaching Learning Model on Students Learning Outcomes in Grade VI with Subtheme 2 Discovery and Benefits in SDN 097805 Rambung Merah

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ABSTRACT

This research aims to determine the influence of the model *QUANTUM TEACHING* on the learning outcomes of Class VI elementary school students, Subtheme 2 Discovery and its benefits. At SD Negeri 097805 Rambung Merah , the method in this research is a quantitative experimental type method whose research design is pre-experimental, one group pretest-posttest type. This was carried out on October 30 to October 31 2023. The population in this study were all class VI students at SD Negeri 097805 Rambung Merah. The sample used was purposing sampling with two research variables: the dependent variable (x) in the form of learning outcomes, and the independent variable (y) in the form of a model *Quantum Teaching*. Data collection techniques are test techniques with validity tests, reliability tests, difficulty level tests, and differentiating power tests. The results of hypothesis testing using the normality test, homogeneity test, and T-test with the help of the SPSS version 2 6 program, with the result $_t$ = 15.711 with a significance level (2-tailed) 0.000, significant probability <0.05, $t_{count} > t_{table}$ = 15.711>2.064 then HO $_{is}$ rejected and Ha $_{is}$ accepted. This explanation shows that there is an influence of the *Quantum Teaching* Learning Model on the learning outcomes of class students in theme 3 class VI of SD Negeri 097805 Rambung Merah.

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INTRODUCTION

Education is an effort or efforts made by humans to develop and grow their potential or talents to make them more meaningful which can create a person into a better and more qualified person. Education is one way to create a learning atmosphere and learning process so that you can more effectively develop skills and become a person who has extensive knowledge and can compete for life in the future. Education has a *real time nature* that is needed at all times. Carried out by humans to develop, expand their insight and skills, change behavior patterns, train humans to be more responsible in behaving and carrying out actions and be able to find solutions to problems in social life.

Indonesian Language and Science Thematic UTS Results for Class VI Students FY 2022/2023

No	Subjects	KKM	The number of students	Complete	Not Completed
1	IPA	70	28	12	16
2	Indonesian	70	28	10	18

(Source: SD Data 097805 Red Hair)

From this table it can be seen that student learning outcomes are still relatively low. The cause of the low student learning outcomes is that teachers are less varied in using the lecture model and are still teacher-centred.

In the learning process in class, teachers usually tend to use lecture and assignment methods so that many students are less interested in the learning process. This non-optimal learning process is one of the factors that causes a lack of success in teaching and learning in the classroom. So it is not in accordance with thematic learning where students should be active in learning, in thematic learning students also find their own learning without having to always listen to explanations from the teacher which makes learning tend to be passive, in thematic learning also the use of learning models will make students more interested in active learning and get involved in the learning process that should occur well. For this reason, researchers tried to use the *Quantum Teaching* model to influence the learning outcomes of class VI students at SD Negeri 097805 Rambung Merah, especially on theme 3 Characters and Discoveries, Subtheme 2 Discoveries and Their Benefits. The action taken by researchers is to apply the *Quantum Teaching learning model* which will attract students' attention in learning.

Based on this background, researchers are interested in conducting research entitled "The Influence of the *Quantum Teaching Learning Model* on the Learning Outcomes of Class VI Students at SD Negeri 097805 Rambung Merah".

Theme 3 Subtheme 2 Students in Class III of SD Negeri 097805 Rambung Merah"

THEORETICAL FRAMEWORK

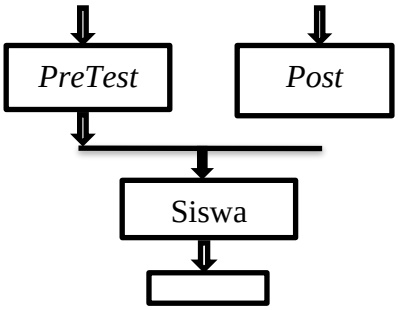

Figure 1. Conceptual Framework

METHODS

The type of research used in this research is quantitative research. Sugiyono, (2018:14) in his book states that quantitative research methods are research methods that are based on the philosophy of positivism, used to research certain populations or samples, sampling techniques are generally carried out randomly, data collection uses research instruments, data analysis is quantitative/statistical with the aim of testing predetermined hypotheses. The type of research used is *Pre-Experimental Design* using the *One Group Pretest-Posttest design type* because it only uses one class as the research sample. The final results of this research will be compared with the situation before treatment was given, with the following pattern:

$$\boxed{O_1 \quad X \quad O_2}$$

Source: Sugiyono, (2018:111)

Figure 3. 1 Research design

Information:

X = Treatment given using the *Quantum Teaching model*

O_1 = *Pretest Score* (before treatment is given)

O_2 = Posttest value (after treatment is given)

With the research design above, it can be explained that this research was carried out by giving an initial test to the class before the model was applied, then learning activities were carried out using the *Quantum Teaching model,* after which a final test was given to the class after the model was applied.

Population is a generalized area consisting of objects/subjects that have certain qualities and characteristics determined by researchers to be studied and then conclusions drawn (Sugiyono, 2018: 117). The population in this study were all class VI students at SD Negeri 097805 Rambung Merah.

RESULTS AND DISCUSSION

This research was carried out at SD Negeri 097805 Rambung Merah, Jln. Rajamin Purba, Siantar Estate, Kec. Siantar, Kab. Simalungun on 30 to 31 October 2023. This research was carried out to find out how much influence the Quantum Teaching Model has *on* student learning outcomes.

Pre-experimental research using *a one group pretest-posttest design* which was carried out in Class VI at SD Negeri 097805 Rambung Merah with a total of 26 students. The first thing carried out in this research was giving a *pretest* to students so they could find out the results. students learn before implementing the *Quantum Teaching learning model, then* learning is carried out on theme *3* , subtheme 2 in learning 1 using the *Qunatum Teaching* learning model .

Instrument Trial Results

Researchers conducted a trial on the question instrument in class VI UPTD SD Negeri 124394 Pematang Siantar, on October 28 2023. Where 22 students were given the trial. Of the 25 multiple choice questions, there were 20 valid questions and 5 invalid questions. Trial tests were carried out to determine validity and reliability as well as test the level of difficulty and differentiability of the questions.

1. **Validity test**

Validity is a metric that measures the validity of an instrument. To carry out a validity test, researchers first test validation by a validator. The validation test is used to find out how

well the validation is carried out by the validator. Proof of validity, as shown in the attachment. Validation was carried out using Moment Product correlation with a significance level of 5% or 0.05 and N=22. Where the test criteria indicate that r_count> r(table) or that r_count< r_(table) is invalid. It can be seen that there are 20 valid questions, while there are 5 invalid questions. Valid questions can be used for the next test.

2. **Reliability**

After the validity test of the data collection questions was completed, a reliability test of the questions was carried out to evaluate the extent to which the tools used in this research could be trusted to be used as a data source.

Table 4. 2 Reliability Results

Reliability Statistics	
Cronbach's Alpha	N of Items
0.876	20

(Source: SPSS 26)

Based on the results of the reliability test, if the coefficient (r_{11}) > 0.6 or 0.7 or compared with the r_{table} (*Product Moment)* is declared reliable.

2. Test Difficulty Level

The test item difficulty level is used to determine the difficulty level of the question, whether the question has the criteria of being difficult, medium or easy. Based on the results of calculating the difficulty level of the questions, the results obtained were that the difficulty level of the questions was 20 questions, there were 5 easy questions, 4 difficult questions and 11 medium questions.

3. Differentiating Power Test

Questions have the ability to differentiate between groups of students with higher or lower scores, which is known as the discriminating power of questions. By looking at the individual correlation values in the question validity table, you can see the different power of the questions. According to the results of the power test analysis, the difference in questions was that four questions reached the adequate criteria, twelve questions reached the good criteria and four questions reached the very good criteria.

Data analysi

Description of Student Learning Results Before Treatment (Pretest Results)

The pretest was carried out in Class VI of SD Negeri 097805 Rambung Merah on October 30 2023. Students received a KKM (Minimum Completeness Criteria) score, which means the score must be more than 70 Statistical data analysis, data description for the *pretest scores* of class VI students can be seen in the following table:

Description of *Pretest* Learning Results for Class VI Students

No	Intervals	Frequency	Percentage (%)
1	91-100	-	0 %
S2	84-90	-	0 %
3	70-83	-	0 %
4	<70	26	100%
Total 26			
Complete (≥70)		-	0 %
Incomplete (<70)		26	100%
Top		65	
Lowest		45	
Average		53.65	

(Source: Research Data)

From the data above it can be seen that the highest pretest score is 65 and the lowest score is 45. The pretest average is 53.65. There are no students who have scores above the KKM. All students have KKM scores, namely 26 students.

After the treatment, namely the application of the *Quntum Teaching Model* in the learning process of Subtheme 2 Discovery and Its Benefits material in lesson 1, *the posttest* was given on October 31 2023.

Statistical analysis of data descriptions for the *Posttest scores* of class IV students can be seen in the following table:

***Posttest* Learning Results for Class VI Students**

No	Intervals	Frequency	Percentage (%)
1	91-100	-	0 %
S2	84-90	10	38.46 %
3	70-83	16	61.53 %
4	<70	-	0 %
Total 26			
Complete (≥70)		26	100%
Incomplete (<70)		-	0 %
Top		95	
Lowest		70	
Average		80	

(Source: Research Data)

From the data above, it can be seen that the highest score on the posttest was 95, while the lowest score was 70. The average on the posttest was 80. There were 26 students who got scores above the KKM. The achievement of student learning outcomes in the posttest is better than the pretest learning outcomes.

Inferential Statistical Data Analysis

1. Normality Test

The normality test aims to find out whether the data used is normally distributed or not. Data that is good and suitable for use in this research is data that is normally distributed. The following are the test results with Liliefors correction significance, where if the significance value (sig) for all data is > 0.05 then it can be concluded that the research data is normally distributed. If sig < 0.05 then the data is not normally distributed.

Tabel 4.9 Uji Normalitas Pretest and Posttest

Tests of Normality						
	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
pretestexperiment	0.184	26	0.024	0.906	26	0.021
posttestexperiment	0.160	26	0.085	0.907	26	0.022
a. Lilliefors Significance Correction						

(Source. SPSS 26)

The One Sample Kolmogrov-Smirvow Test output shows that the sample is 26 students. Sig (2-Tailed) shows the pretest value in the normality test, namely 0.24. Meanwhile, the posttest value for the normality test was 0.85. If the probability is > 0.05, it means the data is said to be normal.

2. Homogeneity test _

The homogeneity test is a statistical test that aims to determine whether groups of sample data from a population have the same variance or not. The results of sample class data processing with a significance of more than 0.05 indicate that the sample class data has a homogeneous distribution.

The basis for decision making is:

a. if the sig value is > 0.05 then the data is homogeneous

b. if the sig value <0.05 then the data is not homogeneous.

Test of Homogeneity of Variances			
Results			
Levene Statistics	df1	df2	Sig.
1,750	1	50	0.192

(Source: SPSS 26)

Based on table 4.10, it can be seen that the significant value is 0.192. Means that significance is greater than the 0.05 significant level. So it can be concluded that Ha is accepted. This means that the data variants are homogeneous. There is a difference between learning and learning that is not above, it is found that there is value in the learning process. Based on the table above, it is found that the significance value is more than 0.05, meaning the data is homogeneous.

3. Uji T-test

Paired Samples Test									
		Paired Differences					T	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	setelahexperiment - sebelumexperiment	26.346	8.551	1.677	22.892	29.800	15.711	25	0.000

(Sumber: SPSS 26)

Based on table 4.11 above, it can be obtained that $t_{=15.711 \text{ with a significant level (2-tailed) } 0.000}$, significant probability <0.05, $t_{=}$ 15.711 >2.064, so HO $_{is}$ rejected and Ha $_{is}$ accepted. This explanation shows that there is an influence of the *Quantum Teaching* Learning Model on the learning outcomes of class students in theme 3 class VI of SD Negeri 097805 Rambung Merah.

DISCUSSION

This research was carried out in Class VI of SD Negeri 097805 Rambung Merah for the 2023/2024 academic year from 30 October to 31 October 2023. The population used was all students of class VI of SD Negeri 097805 Rambung Merah with a sample of 26 class VI students.

In this section, the results found in the research that have been carried out will be described. The intended results are conclusions drawn based on the data collected and data analysis that has been carried out. This research aims to determine the influence of the *Quantum Teaching Learning Model* on Student Learning Outcomes in Theme 3 Class VI of SD Negeri 097805 Rambung Merah which has 26 students in this research. Before carrying out the research, the researcher first carried out a trial of the instrument at the same level with a different school, namely at UPTD SD Negeri 124394 Pematang Siantar. This trial was carried out in order to determine the number of questions from the 25 questions that would be tested in the form of multiple choice questions, namely 20 questions.

Based on the pretest results, the average student learning outcome score was 53.65 with all students scoring below the KKM. Looking at the existing percentages, it can be said that the level of student learning outcomes before using the *Quantum Teaching model* was relatively low.

Apart from that, students show better learning outcomes after using the *Quantum Teaching model* . This shows that their posttest average score is 80, after both pretest and posttest normality tests and homogeneity tests. The homogeneity test found a significant value of 0.192. This is based on existing criteria which state that data is considered to have homogeneous variation if the sig value is greater than 0.05, and in this case, the sig value is greater than 0.05. Therefore, it can be concluded that the data has the same characteristics or is homogeneous.

Normality and homogeneity tests are complete, then test the hypothesis. The student's test results show t_{count} 15.711 and t_{table} 2.064, so Ho $_{is}$ rejected and $_{Ha}$ is accepted. This shows that

$t_{count} > t_{table} = 15.711 > 2.064$, which shows that the *Quantum Teaching model* has an influence on student learning outcomes.

CONCLUSION

Based on the results of research conducted by researchers at SD Negeri 097805 Rambung Merah, the researchers can conclude that the student learning outcomes before implementing the *Quantum Teaching model* , all class VI students still had not reached the KKM, namely 26 students (100%) and after the learning outcome treatment was carried out students increased, namely 26 students (100%) had scores above the KKM and based on hypothesis testing with a significance level = 0.05 and t_{table} of 2,064 t_{count} 15,711. Thus $t_{count} > t_{table}$ 15,711 > 2,064, So it can be concluded that there is an influence of the *Quantum Teaching model* on student learning outcomes in theme 3 class VI of SD Negeri 097805 Rambung Merah.

Based on the results of the hypothesis test, H0 is rejected and Ha is accepted, which indicates that there is a significant influence of the *Quantum Teaching model* on student learning outcomes in theme 3 class VI of SD Negeri 097805 Rambung Merah.

ADVANCED LESSONS

After paying attention to the field data in analysis and conclusions, the author provides several suggestions, including:

1. For Schools

Schools should pay more attention to student learning outcomes in order to improve the quality of education, especially in class VI of SD Negeri 097805 Rambung Merah. It is hoped that the school will give permission to conduct further research on this research.

2. Share Teacher

Teachers should get used to using learning models during the teaching and learning process, because it will make students more active in learning, foster courage, improve students' thinking processes in learning. Learning should be carried out using a variety of learning models to create a fun teaching and learning process.

3. Share participant educate, so that always get used to self For interact with each other and

exchange ideas with classmates about learning material.

4. For Next Researchers

Due to the author's limitations, it is hoped that future researchers who want to apply the *Quantum Teaching learning model* can further develop and strengthen the *Quantum Teaching model* so that the model can spread and teachers are interested in using the *Quantum Teaching model.*

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