

The Effect of Cooperative Model Type Team Assisted Individualization (TAI) on Student Learning Outcomes in Integrated Thematic Learning

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Abstract

The main objective of this study is to identify the impact of Team Assisted Individualization models on the academic results of primary school students on the topic "environment is our best friend." The above research was quantitative and employs a quasi-experimental situation design. The design of a non-equivalent Control Group is being used in the study. The grouping sampling method had been used to sample the population, which was composed of 3 SD in Cluster I, Kec. IV, Jurai. The study was undertaken at Class VA had 16 students in it as an experiment group and Class VB had 15 students in it as a control group. Preconditioned test results in the form of normality, homogeneity tests, and hypothetical tests using the t-test were also used to analyze the data for this research. The experimental class's pre-test average was 46,25, and the post-test average was 80,5 after implementing the Team Assisted Individualization learning models. Meanwhile, after being taught using the traditional approach of 64,13, the control class received an average of 49,06 There is a pre-test and a post-test. Then there's the t-test both had a significant level of 0,05. This $t_{table} = 2,045 > t_{count} = 3,605$. It can be concluded that the Team Assisted Individualization model has an impact on students' learning outcomes when it comes to the topic "environment is our best friend."

Keywords: *integrated thematic learning; learning outcomes; Team Assisted Individualization*

1. INTRODUCTION

Cooperative learning is a learning strategy with some students as members of small groups with different levels of ability (Efendi & Lie, 2020). A cooperative learning model is one that emphasizes cooperation as a means of achieving learning goals. on a small scale where to learn, Students are divided into small

groups and work collaboratively (Arwin, Yunisrul & Zuardi, 2019).

The accuracy of choosing a learning model is also very influential in the continuity of the learning process, as well as the achievement of the learning objectives. Learning model is a model

that can be used to make the learning process easier (Fitria & Fauza, 2020). The learning model is a plan that is used to describe teaching patterns in the classroom, to determine learning materials or devices including books, learning media and curriculum. Learning model is a plan that is intended as a guide in carrying out classroom learning or tutorial learning (Trianto, 2015). The use of learning models is very important in implementing integrated thematic learning in the 2013 curriculum. By using learning models, it is hoped that they will be able to meet the learning objectives that have been set. One of the learning models that can be used is the Team Assisted Individualization learning model. The learning model of Team Assisted Individualization is a teaching method in which students are asked to solve problems to heterogeneously study in a small group, so that each student can work together to achieve learning goals and learning outcomes that are satisfactory (Reinita & Eci, 2018). Students must be able to comprehend learning material in the Team Assisted Individualization learning model and make structured assignments and students are required to be responsible for themselves and also help group friends who are having difficulties, so that each student gets a good score when the final test is carried out. A type of learning model is Team Assisted Individualization is one that aims to help people learn more effectively, adapt learning to the differences of students, which emphasizes guidance between

group members to understand the material and solve the problems being studied so that students will have the same understanding (Yuliati & Saputra, 2019). Cooperative learning model type Individualization with the help of a team learning with groups where a student who has more ability can be used as an individual who helps other students with less ability in the group (Puspitasari, 2018). Furthermore, Team Assisted Individualization is an educational model that brings together the advantages of cooperative and individual learning (Lestari & Yudhanegara, 2017).

The use of Team Assisted Individualization is a cooperative learning model is able to play a role in student interaction and critical thinking skills of students will improve, as evidenced by the evaluation results. The type of cooperative learning model known as Team Assisted Individualization is effective (Gusmarini, 2020). It is used in the learning process because it can help students improve their critical thinking skills, improve learning outcomes and can foster a high sense of sociality among students.

The results of a student's learning process are called learning outcomes. Learning outcomes are abilities that students get through the learning process (Jihad & Haris, 2012). The outcomes of learning can take the form of behavioral changes in students. Changes in learning outcomes changes in knowledge, attitudes, and skills are examples. Learning outcomes have a relatively fixed nature and can develop.

Learning outcomes are benchmarks used to determine the ability or level of success of students both cognitive, affective and psychomotor that can be achieved by students during the process of learning activities (Astimar & Indrawati, 2014).

The reality found in the field is that integrated thematic learning has not been implemented as it should. The expected goals in integrated thematic learning have not been achieved. Students are expected to be more engaged in integrated thematic learning. However, in reality, students are passive and not actively participating in the educational process. Therefore, improvements are needed in the integrated thematic learning process in order to succeed and meet the set objectives.

In integrated thematic learning there is a relationship between one subject and another. Integrated thematic learning is learning that is concurrently in one theme, so that students get meaningful experiences in their learning (Anita, Eliyasni & Hanafi, 2020). In integrated thematic learning, students are encouraged to link between learning materials (Fitria, 2014).

The research question is whether there is a relationship between integrated thematic learning through the impact of the Team-Assisted Individualization model on students' learning progress? As a result, the study's goal was to look into elementary school students' learning progress students in integrated learning

through the Team Assisted Individualization model.

2. METHODOLOGY

Types of Research

This name study is quantitative research. Quantitative The term "research" refers to a study that is conducted predominantly uses numbers starting from data collection, interpretation of the information that has been gathered and the appearance of the results (Arikunto, 2014).

The research method used is a quasy experiment design. According to Sugiyono Quasy experimental design has a control group, it is unable to fully control the external variables that influence the experiment's implementation (Fitria, 2018).

Time and Place of Research

This study took place during the academic year 2021/2022's second semester. The implementation of this research was carried out on integrated thematic learning with the theme "Our Friends Environment" which focused on Integrated Thematic learning in class V.

Population and Sample of Research

The participants in this study are a limited population, which is limited to fifth grade elementary school students in Cluster I, District IV, Jurai which consists of 3 elementary schools. Sampling was done by means of Cluster Random Sampling. The A sample is a subset of a population's size and characteristics (Sugiyono, 2020).

Students made up the study's sample in class VA and VB which consisted of 2 study rooms, namely VA, which had 16 students and VB, which consisted of 15 students. It was decided at random which class would be the control and which would be the experimental. The experimental class is VA, while the control class is VB, according to the results. After the sample was obtained, then the homogeneity and normality test were carried out. The result is that both groups of samples are normal and homogeneous.

Research Procedure

In order to complete the research objectives that have been set, it is necessary to develop a systematic procedure. In general, there are three stages to the research process: preparation, implementation, and completion. During the stage of planning, the researcher conducted document analysis activities Lesson plans are one way to do this and observations regarding the importance of the Learning Model for Team-Assisted Individualization being tested/implemented in elementary schools through literature reviews or research results in journals. Observations were made as a reinforcement of the existence of a gap between theory and practice of learning by teachers. A quasy experiment design was with two non-equivalent control groups was used in this study (non-equivalent control group design) variables. This study was designed in the two groups are the experimental group and the control

group (Lestari, Syahrilfuddin, Putra, & Hermita, 2019). The drug was administered to the experimental group. the Team Assisted Individualization model. Meanwhile, the control group was not given any treatment. Both the experimental and control groups were given pre- and post-tests.

In the next stage, implementation or treatment of the two sample classes carried out in the context of gathering data for research. Then comes data analysis and the creation of data collection instruments. After the data was collected, it was analyzed using descriptive and inferential statistics.

Data, Instruments, Data Collection Techniques, and Data Analysis Techniques

The information of this research is quantitative, namely pre-test data (preliminary test) and post-test data (final test). The research instrument is a test device in the shape of an objective question (Sugiyono, 2020). To measure a phenomenon, both spiritual and social, a tool known as an assessment instrument is needed.

Instrument questions are given in the form of There is a pre-test and a post-test. The pre-test was given before the sample was treated, and the post-test was given after the sample was treated. The purpose of This instrument is used to determine the students' comprehension level of the material being studied. Making question instruments is based on a grid of questions that are limited to measuring

the knowledge abilities of students. The test that A test of knowledge learning outcomes was used in this study, namely an objective test with 38 items, then validity, reliability, different test, and level of difficulty are tested, in order to obtain 30 items that meet the criteria for a good question. The data was analyzed using descriptive and inferential statistics analysis technique.

Result of Research

1. Description of Data the Experiment and Control Classes' pre- and post-test

To see the pre-test and post-test learning outcomes of Theme 8 Learning 3 and 4 (sub-theme 3), In the recapitulation in Table 1, the experimental and control classes can be seen:

3. RESULTS

Table 1. Experiment Class and Control Class Pre-Test and Post-Test Data

Variable	Experiment Class		Control Class	
	Pre-test	Post-test	Pre-test	Post-test
N	16	16	15	15
The highest score	83	100	80	93
Lowest Value	27	70	23	40
Mean/Average	46.25	80.5	49.06	64.13
Standard Deviation	14.79	9.78	19.66	15,10

Meanwhile, the average of the untreated control class increased by

15.07 from 49.06 to 64.13. With a graph like Figure 1 below.

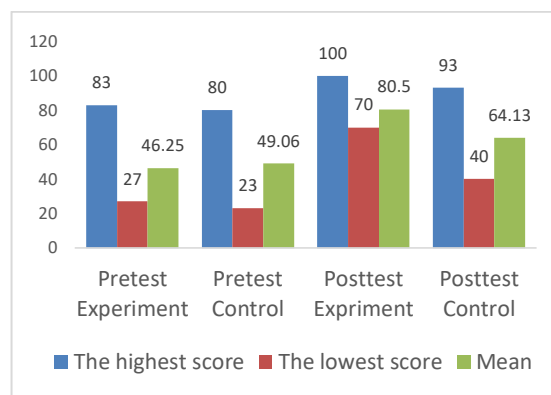


Figure 1. Comparison of Sample Class Pre-test and Post-test Results

2. Normality Test and Homogeneity Test

To find out whether the processed the data is normally dispersed, the

normality test is used. So, it can be used for t-test analysis. The values of the experimental and control classes' pre- and post-tests were used for this

normality test. In this normality test, the Liliefors a test was conducted. as stated in the data analysis technique. The appendix contains an analysis of normality in the experimental and control groups. Based on the normality test for both the experimental and control groups, it is obtained L_o (L_{count}) and L_t

(L_{table}) for both samples on a personal level significance ($\alpha = 0.05$). The results of the normality test of the learning outcomes of participants in the control and experimental groups are summarized in Table 2 below.

Table 2. Sample Class Normality Test Results based on the results of the pre- and post-tests

Data	Class	L_o	L_{table}	N	Information
<i>Pre-test</i>	Experiment	0.173	0.221	16	Normal
	Control	0.210	0.228	15	Normal
<i>Post-test</i>	Experiment	0.216	0.221	16	Normal
	Control	0.139	0.228	15	Normal

Table 2 above shows the pre-test normality test obtained the experimental class value in both the experimental and control classes are $L_{count} = 0.173$ with $L_{table} = 0.221$ and the value of the dick class with $L_{count} = 0.210$ with $L_{table} = 0.228$ at a significant level of 0.05. Meanwhile, In the experimental class's post-test normality test, the value of $L_{count} = 0.216$ with $L_{table} = 0.221$ and in the control class the value of $L_{count} = 0.139$ with $L_{table} = 0.228$ at a 0.05 is regarded as a statistically significant level. Using the information in the table, the two samples both show $L_{count} < L_{table}$, so the samples from the pre- and post-tests of the experimental and control groups results are both deemed normal.

The homogeneity in this study, a test was carried out to see if the data from

the experimental and control groups are comparable had homogeneous variants or not. The homogeneity test in the F-test was used in this research, with a level of significance of 5% or = 0.05. The results can be seen in Table 3. Table 3 shows the value of $F_{count} = 1.76$ with $F_{table} = 2.42$ at a significant level of 0.05 in the pre-test homogeneity test in the experimental and control classes. Meanwhile, in the post-test homogeneity test, both the experimental and control classes were found to be homogeneous, $F_{count} = 2.38$ with $F_{table} = 2.42$ on level significant 0.05. Based on the table above, the two samples both show $F_{count} < F_{table}$, so the samples from the The experimental and control groups' pre- and post-test results are declared homogeneous.

Table 3. Result of Homogeneity Test of Sample Class based on pre-test and post-test scores

Statistics	Pre-test		Post-test	
	Experiment Class	Control Class	Experiment Class	Control Class
Variant	218.86	386.78	95.73	228,12
Biggest Variant		386.78		228,12
Smallest Variant		218.86		95.73
F_{count}		1.76		2.38
F_{table}		2.42		2.42
Conclusion	Homogeneous		Homogeneous	

3. Hypothesis testing

Following the normality and homogeneity tests, it was determined that the students' post-test scores in the two sample classes had a homogeneous

variance and were normally distributed. The hypothesis is also tested using the t-test formula. The results of hypothesis testing with the t-test can be seen in Table 4.

Table 4. T-test results for the Experimental and Control Classes

No	Class	N	me-an	T_{Count}	T_{Table}	Conclusion
1	Ex	16	80.5	3,605	2.045	Hypothesis Accepted
2	Control	15	64.13			

Based on Table 4 above, it is found that $t_{count} > t_{table}$ is $3.605 > 2.045$, H_1 is then accepted, while H_0 is rejected. It can be concluded that in class V SDN Gugus I, District IV, Jurai, there are Learning outcomes differ between students who are taught using the Team Assisted Individualization Cooperative Model and those who are not and students who are taught with this method conventional learning in integrated thematic learning.

4. Calculation of N-Gain

The N-Gain The difference between the two groups was determined using a test before and after learning outcomes for students. N-gain is also used to see how the students' learning outcomes increase before and after the treatment. In this study, the researcher set the maximum score = 100, so the gain value that may be obtained by students is between 0 and 100. The results can be seen in Table 5 below.

Table 5. Experiment Class and Control Class N-Gain Values

Value Criteria N-Gain	Experiment Class	Control Class
Tall	6 students	-
Currently	10 students	7 students
Low	-	8 students
\bar{X}	0.666	0.306
Category	Currently	Currently

5. Coefficient of Determination Test

The coefficient of determination test is used to figure out how much the independent variable influences the dependent variable. Before to test the coefficient of determination performed a simple linear regression test. A functional or causal relationship exists between one in simple regression. There is one independent variable and one

dependent variable in this study. The purpose of this regression analysis is to see how each independent variable (X) affects the dependent variable (Y). The researcher used SPSS 25 to calculate the regression in this study. The entered or removed variables can be seen in Table 6 below.

Table 6. Entered/Removed Variables

Variables Entered/Removed			
Model	Variables Entered	Variables Removed	Method
1	TAI ^b	.	Enter
a. Dependent Variables: Learning outcomes			
b. All requested variables entered			

The model of team-assisted individualization is the independent variable in this study, according to Table

6, while learning outcomes are the dependent variable.

Table 7. Model Summary

Model Summary				
Strategy	R	R Square	Adjusted R Square	Std. Error of Estimate
1	.786a	.657	.590	9.47
a. Predictors: (Constant), Model TAI				

Table 7 above explains the magnitude of the correlation value (R) of 0.786. From the output, a determination

coefficient of 0.657 means that the Brain Team Assisted Individualization model

has an impact on reasoning ability by 65% with a high degree of correlation.

4. DISCUSSION

The purpose of this study was to see the effect of the Team Assisted Individualization (TAI) cooperative learning model on the learning outcomes of Class V students of Cluster I, IV, Jurai on the material for our Sahabat Kita environment. Individual learning is combined with cooperative learning in the Team Assisted Individualization learning model. The study was conducted twice in each sample class with the same material.

Based on the results of data analysis, it was found that the learning outcomes of students who were taught using the Team Assisted Individualization (TAI) type cooperative model were higher than the learning outcomes of students who were taught using conventional learning in integrated thematic learning theme 8 sub-theme 3 learning 3 and 4 in the classroom. V SD. The results of this study can be seen in the learning outcomes data in Table 1 which shows that the average student learning outcomes in the experimental class are higher than the average learning outcomes of the control class. This means that the type of Team Assisted Individualization cooperative learning model has a significant effect on student learning outcomes. This is also supported by Tinungki's (2015) research "The Role of Cooperative Learning Type Team Assisted Individualization to Improve the

Students' Mathematics Communication Ability in the Subject of Probability Theory" that the Team Assisted Individualization type of cooperative learning model has a significant effect on students' mathematical communication skills. Based on these results, it can be concluded that the Team Assisted Individualization type of cooperative learning model not only has a positive effect on mathematical communication skills but has also been shown to have a positive effect on student learning outcomes. Tinungki's research (2017) entitled "The role of cooperative learning with team assisted individualization to improve the students' self-proficiency" also explained that the results of this study were that the achievement of self-proficiency of students who were taught using cooperative learning with TAI was better than that of students taught by conventional learning. Based on the results of the study, it can be concluded that the Team Assisted Individualization type of cooperative learning model not only has a positive effect on students' self-efficacy but has also been shown to have a positive effect on student learning outcomes.

The cooperative learning model is a learning model that emphasizes the use of student groups (Winanda, Zufriady, & Putra, 2020). The principle that must be upheld about cooperative groups is that each student in the group must have a heterogeneous level of ability (high, medium, and low), and if necessary, they must come from different races,

cultures, and ethnicities taking into account gender equality. (Tinungki, 2015). Thus, they can develop their abilities and skills. Weak students will be helped in understanding the subject matter because there is no competition among students because they work together to solve problems in the face of different ways of thinking. Students not only expect help from the teacher but are also motivated to learn quickly and precisely in all materials. Therefore the teacher can only use half of his teaching time so it will be easier to provide individual assistance to students (Tinungki, 2015). This is supported by the opinion of Fathurrohman (2020), that the Team Assisted Individualization type of cooperative learning model has advantages including, not much time being wasted teaching certain study groups, each student helps each other check the assignments of other friends, learning feels more flexible, and building positive attitude among students (Fathurrohman, 2020).

Based on the research data obtained, it can be concluded that the application of the Team Assisted Individualization type cooperative model has a significant effect on student learning outcomes in integrated thematic learning in fifth-grade elementary school. Therefore, the cooperative learning model can be used as an appropriate learning model to be applied by teachers to improve student learning outcomes in integrated thematic learning in fifth-grade elementary school.

5. CONCLUSION

The researchers' conclusions are based on the results of research data analysis and discussion that in integrated thematic learning theme 8 sub-themes 3 learning 3 and 4 in class V, Team Assisted Individualization (TAI) students type cooperative model have better learning outcomes than students who are taught using conventional learning. The results of a t-test with a significance level of 5% (95 percent confidence level) and $t_{count} > t_{table}$ is $3.605 > 2.045$ at test to this. The fact that $t_{count} > t_{table}$ indicates that the learning outcomes in Theme 8, sub-theme 1, learning 3: integrated thematic learning and 4, are significantly different in both classes.

This is also supported by the difference in the average value of the experimental and control groups after the implementation of the learning. Students who use integrated thematic learning themes with 8 sub-themes 1 learning 3 and 4 with a Team Assisted Individualization type cooperative model have an average score of 80.5, whereas students who use integrated thematic learning themes with 8 sub-themes 1 learning 3 and 4 with conventional learning have an average score of 64.13. As a result, it can be concluded that the cooperative model of Team Assisted Individualization has a significant impact on student learning outcomes in integrated thematic learning in class V.

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