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The Effect of *Team Assisted Individualization* (TAI) Learning Model on Learning Outcomes of Grade IV Elementary School Students

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ABSTRACT: Education at the primary level, especially in IPAS subjects. It often faces challenges in improving the learning outcomes of students with diverse abilities. This study aims to determine whether there is an effect of the *Team Asissted Individualization* (TAI) learning model in the subject of IPAS for grade IV elementary school students. This research method uses observation, documentation, and tests. This is the use of quantitative research methods. It has been found a problem in the learning process, that the teacher in delivering IPAS learning material is less interesting, and causes students to be passive. The solution of this research using the *Team Asissted Individualization* (TAI) model can help students understand difficult concepts, increase learning motivation and increase interaction between students.

KEYWORDS: Model, *Team Assisted Individualization* (TAI), Learning Outcomes.

INTRODUCTION

One of the developments of the Merdeka Curriculum that is different from the previous curriculum is the merging of Natural Science (IPA) and Social Science (IPS) subjects into IPAS (Natural and Social Sciences). The integration of science and social studies is one of the learning solutions to improve literacy and numeracy competencies. IPAS content is very close to nature and human interaction. IPAS learning needs to present a context that is relevant to the natural conditions and the environment around students. Thus, students can be helped in understanding the content and context of IPAS subjects, strengthening the mastery of literacy and numeracy and becoming life skills in everyday life. (Rohman et al., 2023).

Natural and Social Sciences (IPAS) is a science that studies living and non-living things in the universe and their interactions, and examines human life as an individual as well as a social creature that interacts with its environment. In general, science is defined as a combination of various knowledge arranged logically and systematically by taking into account cause and effect. IPAS learning has a role in realizing the Pancasila Student Profile as an ideal description of the profile of Indonesian students. IPAS helps learners grow their curiosity about the phenomena that occur around them. This curiosity can trigger learners to understand how nature works and interacts with human life on earth (Adnyana & Yudaparmita, 2023).

In general, learning outcomes are the abilities that children acquire after going through learning activities. Because learning itself is a process of a person trying to obtain a relatively permanent form of behavior change. In teaching activities or instructional activities, teachers usually set learning objectives. Children who succeed in learning are children who succeed in achieving learning goals. And to find out the learning outcomes achieved are in accordance with the desired goals can be known through evaluation. (susanto, 2016). Learning outcomes are experiences that students have gained after students receive learning. In accordance with Febryananda's statement that learning outcomes are the mastery that a person or student has gained after students absorb learning experiences. (Febryananda, 2019).

Based on the results of observations made by researchers on October 22, 2024 at SD INPRES 1 KAWATUNA, several problems were found in the learning process. It was revealed that the teacher in delivering IPAS learning material was less interesting. And cause students to be passive. This shows that student learning outcomes are still far
which is expected. It turns out that of the 28 students in class IV of SD Inpres 1 Kawatuna School, it turns out that 12 students or 71% of students still get the value of the results of their IPAS learning still brought to the standard of completeness (KKM) which

is 70. Teachers have never used the Team Assisted Individualization (TAI) learning model and mostly only use conventional models such as regular cerama, question and answer and assignments so that students feel bored in learning.

Therefore, to solve the problems of the learning process, learning models are needed by teachers so that students can receive information or messages well, because through learning models teachers can help students get information, ideas, skills, ways of thinking, and expressing ideas. The learning model also functions as a guide for learning designers and teachers in planning teaching activities.

One of the suitable learning models used in relation to these problems is the Team Assisted Individualization (TAI) learning model.

Learning model to adapt teaching to individual differences related to student abilities and student achievement. (Aris Shomini, 2014).

The Team Assisted Individualization (TAI) learning model is a pedagogical approach that aims to academically adapt to the peculiarities of each student. The goal is to reduce effective individual instruction and increase students' knowledge, skills, and motivation by learning in groups. (Miftahul Huda, 2013).

As for some of the advantages in cooprative learning type in the Team Assisted Individualization (TAI) learning model, students will be motivated to work on the material accurately and precisely, and will not succeed by cheating alone, many material mastery guidelines are presented, so students will not repeat material that has been mastered and flexible and simple program operation for teachers and students. (Ahmad Susanto, p. 249).

Based on the rationale and reality in the field found above, the researcher was encouraged to conduct a study entitled "The Effect of Team Assisted Individualization (TAI) Learning Model on the learning outcomes of fourth grade students in IPAS subjects at SD.

LITERATURE REVIEW

The Team Assisted Individualization (TAI) learning model is one of the learning models by combining individual and group learning. This Team Assisted Individualization (TAI) model requires that students can collaborate in a team which of course consists of various mixes related to the learning achievement of high, medium, or low students. (Chindy Aryani, 2014).

Another understanding of the Team Assisted Individualization (TAI) learning model is a learning activity where small groups are formed in a mixed manner so that there are differences in the way students think with one another. This is done so that each learner can exchange and help each other. (Endang Haryati, 2013).

learning result is something that is done (made, made, etc.) by effort (mind, etc.), while learning is an effort to gain a certain amount of knowledge. So learning outcomes are the mastery of knowledge developed by subjects, usually indicated by test scores or numbers given by the teacher. (Big Indonesian Dictionary). Learning outcomes are the abilities that children acquire after going through learning activities. Learning outcomes are the achievement of a form of behavior change that tends to remain from the congnitive, effective, psychomotoric domains of the learning process carried out within a certain time. (Asep Jihad, 2013).

RESEARCH DESIGN

This type of research is quantitative research, which is research that seeks to provide evidence of the truth of facts in the field and is scientifically assessed based on a theoretical framework that is concerned with the problems raised by problems that use numbers and counts. (Nana Syaodih Sukmadinata, 2010). This research design is a pre-experiment one-group pretest posttest design. The experimental method is a method that is given or uses a symptom called training. In this study, we want to know whether there is an effectiveness of the Team Assisted Individualization (TAI) learning model on student learning outcomes. Sugiyono (2017). In this design the test was carried out 2 times, namely pretest and posttest. The research design is as follows:

Table 1. Research design of *one-group pretest posttest design*

Pretest	**Treatment**	***Posttest***
O1	X	O2

Description:

O_1 = initial test (*Pretest*) before treatment is given O_2

= final test (*Posttest*) after the treatment is given

X = treatment of the *Team Asissted Individualization* (TAI) learning model on student learning outcomes in IPAS subjects.

The sample in this study were all fourth grade students totaling 28 students of which 20 were male and 8 were female. Data collection techniques in this study were observation, documentation, and tests. The research instrument used is a test, to see the effect of using the *Team Asissted Individualization* (TAI) model.

The test instrument analysis in this study is the validity of the test items and the reliability of the instrument. The test instrument in the form of multiple choice questions that have been done by students during the trial is then tested for validity using the help of Microsoft excel and IBM SPSS Statistic 25. This instrument reliability test is carried out by calculating the Cronbach Alpha coefficient of multiple choice questions. Reliability testing was carried out with the help of the IBM SPSS Statistics 25 program:

a. If the rtable value> 0.60 then the research instrument tool is reliable
b. If the rtable value <0.60 then the research instrument tool is not reliable

There are two data analysis techniques and hypothesis testing, namely descriptive statistical data analysis and inferential statistical analysis. Descriptive statistical analysis is used to describe or describe the variables in this study, namely student learning outcomes. Data processing was carried out using the IBM SPSS Statistic 25 application.

Table 2. Categorization of Student Learning Outcomes Assessment

Criteria	Value
0 - 48	Very Low
49 - 64	Low
65 - 74	Medium
75 - 87	High
88 - 100	Very High

***Source*:** Categories of Science Learning Outcomes SDI Biringkaloro

Inferential statistical analysis is carried out by normality test and hypothesis testing. Normality test is a test used to determine whether the data obtained is normal or not. The normality test used is the Liliefors (Shapiro-Wilk) test. The test criteria are said to be normal based on the significant value, namely:

a. If the significance> is 0.05, then Ho is accepted and the data is normally distributed.
b. If the significance< is 0.05, then Ho is rejected and the data is not normally distributed.

Hypothesis testing was conducted to prove whether there was a significant difference in the effect of the Team Assisted Individualization (TAI) learning model before and after it was applied in the IPAS learning process. The hypothesis test used is t-test (paired sample t-test) with the help of IBM SPSS Statistic 25 program.

The significant decision making is as follows:

a. Significant value< 0.05 then Ho is rejected and accept Ha
b. Significant value> 0.05 then Ho is accepted and reject Ha

RESULTS

This research was conducted at SD Inpres 1 Kawatuna to see if there is an effect of using the *Team* Learning Model. *Assisted Individualization* (TAI). Against Learning Outcomes of Class IV Students in IPAS Subjects at SD Inpres 1 Kawatuna. This research was conducted twice, the first meeting was held on May 6, 2025 "me and my needs", the second meeting was held on May 14, 2025 with the material "how I meet my needs". The steps of *Team Asissted Individualization* (TAI) in the learning process are, heterogeneous group formation, placement test, presentation of material, independent learning in groups, group correction and discussion, group assessment, group awards. Student learning outcomes are obtained with a test instrument totaling 14 valid and reliable questions in the form of multiple choice. The results of the analysis of each validation test item can be seen in table 3 below:

Table 3. Results of Validity Analysis of Problem Instruments

NO. SOAL	PearsonCorrelation	Value. Sig	Conclusion
1	**0,303**	**0.208**	**NOT VALID**
2	**0,887**	**0,000**	**VALID**

3	**0,895**	**0,000**	**VALID**
4	**-0,005**	**0,985**	**NOT VALID**
5	**0,580**	**0,009**	**VALID**
6	**0,564**	**0,012**	**VALID**
7	**0,590**	**0,008**	**VALID**
8	**0,155**	**0,527**	**NOT VALID**
9	**-0,242**	**0,318**	**NOT VALID**
10	**0,458**	**0,049**	**VALID**
11	**0,144**	**0,556**	**NOT VALID**
12	**0,530**	**0,019**	**VALID**
13	**0,610**	**0,006**	**VALID**
14	**0,515**	**0,024**	**VALID**
15	**0,460**	**0,048**	**VALID**
16	**0,594**	**0,007**	**VALID**
17	**0,765**	**0,000**	**VALID**
18	**0,732**	**0,000**	**VALID**
19	**0,397**	**0,093**	**NOT VALID**
20	**0,645**	**0,003**	**VALID**

Based on the results of the validity test with the help of SPSS version 25 for windows, the value (r table) with 19 respondents is 0.456, meaning that if the validity test requirement if r count> from r table or Sig value <0.05 then the question is declared valid. There are 14 questions that are declared valid because the sig value is< 0.05 and seen from the valid questions there are easy and easy question variations so that the question is valid. While 6 invalid questions are number 1, 4, 8, 9, 11 and 19 because the sig value is> 0.05, and it looks like the 6 questions are too easy to do so that the question is not said to be valid.

The results of the test reliability test with IBM SPSS Statistic 25 can be seen in table 4 below:

Table 4. *Reliability* Test Results of Research Instruments

Reliability Statistics	
Cronbach's Alpha	N of Items
.875	14

The results of descriptive analysis using the IMB SPSS Statistic 25 application. The results of the *pretest* data for this class can be seen in table 5 below:

Table 5. Results of *Pretest* and *Posttest* Data Analysis

Statistic	*Pretest* Data	*Posttest* Data
Mean	54	93
Standard Deviation	16.637	4,96
Minimum Score	21	85
Maximum Score	54	100

Based on the data in Table 5, it can be seen that the initial ability of student learning outcomes in the Experiment class, can be seen from the average value of class IV students as an Experiment class of 54. The results of the *Pretest of* the Experiment class obtained the highest value of 54 and the lowest value of 21. The *Posttest* results obtained the highest score of 100 and the lowest score of 85.

The results of the data normality test in the experimental class in the following table:

Table 6. Normality Test Results

Class	*ShapiroWilk*		
	Statistic	Df	Sig
Pre-Test Experiment	.947	28	.168
Experiment Post-test	.786	28	.000

Based on table 6 the results of the normality test using Lilliefors (Sharpiro-wilk) with the help of the IBM SPSS Statistic 25 program show that the pre-test data in this study has a sig value> 0.05. The experimental Pretest Sig value is (0.168> 0.05). Thus, it can be concluded that the data is normally distributed.

The results of hypothesis testing were carried out with the help of the IBM SPSS Statistic 25program.

Table 7. Hypothesis Test Results *Paired Sample T-Test* Paired Samples Test

		Paired Differences					t	df	Sig. (2tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference Lower	Upper			
Pair 1	*pretest posttest*	-38.96429	16.77406	3.1700 0	-45.46859	-32.45998	-12.292	27	.000

Based on the results of the analysis above, it can be seen that the Sig. (2-tailed) is 0.000 <0.05. Based on these results it can be concluded that Ho is rejected and accepts Ha. Based on this data, it can be concluded that the hyptesis test states that there is an effect of using the *Team Asissted Individualization* (TAI) model on student learning outcomes in IPAS subjects in Class IV of SD Inpres 1 Kawatuna.

DISCUSSION

In the pretest and posttest results, the normality test was carried out, seen in table 6, it was found that the data was normally distributed, then due to the conditions and research distribution of hypothesis testing using paired sample T-Test or paired samples with the help of SPSS version 25 for windows obtained a significant value of (0.000 < 0.05) which means accepting Ha (there is an effect of using the Team Assisted Individualization (TAI) model on the learning outcomes of grade IV students in IPAS subjects at SD Inpres 1

Kawatuna, this is in accordance with research conducted by Sari (2017), which shows that the application of the Team Assisted

Individualization (TAI) model is able to improve student learning outcomes in IPAS subjects. So, the Team Assisted Individualization (TAI) model can be widely applied to various subjects in elementary school. In applying the Team Assisted Individualization (TAI) model, teachers need to pay attention to the formation of different groups and provide sufficient guidance during the discussion process. Without proper guidance, more capable students feel burdened because they have to help their friends, while other students become

passive.

Research conducted by Moh Halih (2016), where the results of the research conducted stated that there were differences in learning outcomes between the experimental class and the control class. This difference is indicated by the value of tcount = 3.45> ttable

= 1.998 with a significance level of 5%. Thus it can be concluded that there is an effect of the Team Asissted Individualization model.

(TAI) on math learning outcomes with set material in class VII SMP Rahmat Surabaya.

The advantages and disadvantages of the Team Asissted Individualization (TAI) model. The advantages of the Team-Assisted Individualization (TAI) model are teamwork, group responsibility, and peer-to-peer learning support which are the main factors in the success of learning, while it should be noted that the Team-Assisted Individualization (TAI) model also has weaknesses

including requiring more time in implementing learning and the possibility of dependence of less active students on more capable students. Therefore, teachers need to organize and guide the group discussion well and evaluate each student.

Based on the results of this study, it is suggested that the Team Assisted Individualization (TAI) model can be used as one of the effective learning models to improve student learning outcomes, especially in the context of IPAS learning which requires understanding of concepts that are integrated between natural and social sciences. With the support of careful planning and disciplined implementation, the Team Assisted Individualization (TAI) model has the potential to be implemented more widely in elementary schools.

CONCLUSION

Based on the results of data analysis on the Paired Sample T-test hypothesis test, a significant value of 0.00 was obtained because the significant value of 0.000 <0.05 so that the Ho hypothesis was rejected and accepted Ha. This shows that there is an effect of using the Team Asissted Individualization (TAI) Learning model on the Learning Outcomes of Grade IV Students in IPAS Subjects at SD Inpres 1 Kawatuna.

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