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THE EFFECT OF MEDIA LEAFLET ASSISTED STAD LEARNING MODEL ON STUDENTS' COGNITIVE LEARNING OUTCOMES AT SMA NEGERI 3 WAINGAPU

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Abstract

This thesis aims to determine the impact of applying the type of STAD assisted through leaflet media on the sophistication of the latest knowledge on the impact of class XI IPA 2 students at SMA Negeri 3 Waingapu. This type of research is an examination with a quantitative strategy, sampling using purposive sampling. The population of this study is all students of class XI IPA SMA Negeri 3 Waingapu even semester 2022/2023. This data pattern is that 36 students of XI IPA 1 experienced improvements due to increased elegance and 36 students of XI Science 2 due to experiments. The consequence of the descriptive assessment obtained stated that the pretest and posttest values for the experimental luxury were $53.52 < 84.58$ at the same time as the pretest and posttest scores for the control were $52.69 < 75.83$. Then the arrests were examined using paired t samples. the test produces an Asymp sig (2-tailed) of 0.000 which means < 0.05 . The version of STAD type mastery assisted by leaflet media has an effect on students.

Keywords : STAD Version, Leaflets, Cognitive Learning Outcomes

Abstrak

Penelitian ini bertujuan untuk mengetahui pengaruh model kooperatif tipe *STAD* berbantuan media *Leaflet* terhadap hasil belajar siswa kelas XI MIPA2 SMA Negeri 3 Waingapu. Jenis penelitian ini adalah eksperimen dengan pendekatan kuantitatif, pengambilan sampel menggunakan purposive sampling. Populasi dalam penelitian ini adalah seluruh siswa kelas XI MIPA SMA Negeri 3 Waingapu semester genap tahun ajaran 2022/2023. Sampel penelitian ini adalah 36 siswa kelas XI MIPA1 sebagai kelas kontrol dan 36 siswa kelas XI MIPA2 sebagai kelas eksperimen. Hasil analisis deskriptif yang diperoleh menunjukkan bahwa nilai pretest dan posttest kelas eksperimen adalah $53,52 < 84,58$ sedangkan nilai pretest dan posttest kelas kontrol adalah $52,69 < 75,83$, kemudian dilakukan pengujian hipotesis dengan menggunakan sampel t berpasangan. pengujian menghasilkan nilai Asymp, sig (2-tailed) 0,000 artinya nilai tersebut lebih kecil dari 0,05. Dapat disimpulkan bahwa model pembelajaran kooperatif tipe *STAD* berbantuan media *Leaflet* berpengaruh terhadap hasil belajar siswa.

Kata Kunci : Model Pembelajaran, *STAD*, *Leaflet*, Hasil Belajar



INTRODUCTION

Education is one of the most important aspects of human life, in building and improving the quality of human resources. Efforts to improve education by optimizing the implementation of the learning process. According to Djumali (2014: 1), education is preparing humans to solve life's problems in the present and the future. So, education is an increase in intellectual quality to increase the effectiveness and efficiency of the educational process carried out. The learning process carried out by the teacher in activating learning in the classroom certainly has its own way of selecting the right learning version and learning media and in accordance with the material being taught. According to Asmara (2015), said that the learning process is an integration between teaching and learning processes.

As for the results of observations and interviews that have been conducted with biology teachers (SM) class XI at SMA Negeri 3 Waingapu, November 24 in the 2022/2023 academic year, it was found that the learning method used previously was using energy factor (PPT) as a medium learning. However, the method of entering material is still not optimal because the teacher plays a central role, while students hear more explanations from educators during the learning process. so that students are less active in absorbing material and facing independent challenges given during learning.

Seeing the low learning outcomes of biology in class XI MIPA which is a problem at SMA Negeri 3 Waingapu, it is necessary to update the learning model and learning media that can improve student learning outcomes which are still relatively low. The STAD-type cooperative learning version assisted by leaflet media is suitable for class XI MIPA SMA Negeri 3 Waingapu in improving student learning outcomes. The purpose of the STAD version is to encourage active and positive interaction and cooperation from group members which is able to make groups and each student have a sense of responsibility towards themselves and fellow group members to study in heterogeneous categories.

According to Ruliansyah (2019), STAD type learning process that guides students to learn collaboratively with small group members through various learning instruments, such as tutorials and quizzes, as well as through discussions to understand the curriculum. Sugiyanto (2014: 118) also states the characteristics of the STAD model, namely learning is carried out in small groups, students work with friends from different groups, share opinions, reach decisions together, it is seen that students become more active in learning. So that the STAD learning model is a simple category of learning so that students work in small groups with diverse members. In this context, the use of leaflet media can be an effective supporter in the implementation of the STAD learning model.



Leaflet media is a written printed sheet that can be folded and contains learning materials and is equipped with pictures. Majid (2013) explains that leaflet media can be used to convey various types of material that students need to learn. In the context of learning, the use of leaflet media can provide several benefits. Leaflet media also makes it easier for students to understand the material. The teacher can present the material in a clear summary form and is equipped with relevant pictures and illustrations. This helps students remember the contents of the material contained in the leaflet.

The results of previous research from Yendrita & Neti Soprina (2021) concerning the Effect of Using the Cooperative Learning Version of Scholar Teams Fulfillment Department (STAD) on Biology Learning Outcomes obtained from the results of the analysis that has been carried out obtained $t_{count} = 2.23$ and $t_{table} = 1.70$ at the level significant 0.05 and $dk = 31$ which means the hypothesis is accepted. From the results of this analysis, it can be interpreted that there is a significant effect of using the pupil teams fulfillment division (STAD) cooperative learning version on the learning outcomes of class X students of SMK N 1 Talamau, West Pasaman Regency at a confidence level of ninety-five%.

Based on the explanation above, the STAD type version can improve learning outcomes because this version has the advantage of cooperation, a sense of responsibility both in groups and individually, which makes students more active and not bored.

RESEARCH METHODS

This research was conducted during the information period for the 2022/2023 school year in April 2023 at SMA Negeri 3 Waingapu East Sumba, Indonesia. The population of this research is all SMA Negeri 3 Waingapu for the 2022/2023 academic year. The research sample was class XI MIPA2, there were 36 students in the experimental class and 36 students in the control class XI MIPA1. The sampling technique used purposive sampling technique. From the material of the human reproductive system.

This study used an experimental method with a quantitative approach. In this study, the test was administered twice, ie. pretest and posttest. The pre-test was given before treatment to determine students' abilities before treatment and post-test after treatment.

This type of research material is quantitative data. The information obtained is the results of the pre-test and post-test of student learning outcomes with multiple answers. The results of the pretest and posttest of this study were analyzed namely Validity test and reliability test, normality test with Shapiro-Wilk test, homogeneity test and hypothesis based on significance level of 0.05 with paired sample t-test.

RESULTS AND DISCUSSION

The results of the analysis of student learning outcomes at SMA Negeri 3 Waingapu using SPSS 22 are as follows:

Table 1. The results of the control class pretest and experimental table format

Data	Pretest results	
	control	Experiment
Min value	20	40
Maximum value	87	93
Means	52,69	53,52
Standard deviation value	22,993	25,79
Students complete	7 (20%)	13 (36%)
Students don't finish	29 (80%)	23 (64%)

Based on Table 1. The results of the STAD type pretest scores with the help of leaflet media are still in the low category or do not reach the comparative class and test category averages. Minimum KKM score below 72

Table 2. Results of posttest control class and experiment Table format

Data	Posttest results	
	control	Experiment
Min value	20	40
Maximum value	100	100
Means	75,83	84,58
Standard deviation value	20,65	18,02
Students complete	25 (70%)	30 (82%)
Students don't finish	11 (30%)	6 (18%)

Based on Table 2, the post-test scores showed an increase in student learning outcomes in the experimental class compared to the reference class which obtained an average score (KKM) of 84.58 for the experimental class and 75.83 for the control class.

Table 3. Validation test of pretest questions

No	Sig (2-Tailed)	Information	Conclusion
1	0,000	< 0,05	Valid
2	0,000	< 0,05	Valid
3	0,000	< 0,05	Valid
4	0,000	< 0,05	Valid
5	0,000	< 0,05	Valid
6	0,000	< 0,05	Valid
7	0,000	< 0,05	Valid
8	0,000	< 0,05	Valid
9	0,000	< 0,05	Valid
10	0,000	< 0,05	Valid

Berdasarkan Tabel 3. Hasil 10 nomor soal ujian pendahuluan yang diujikan pada 36 siswa dinyatakan valid dan dapat digunakan, mis. suatu pertanyaan dianggap valid jika memiliki korelasi yang signifikan dengan skor total. Fakta dianggap valid jika nilai signifikansi > 0,05.

Table 4. Reliability test results for pretest questions

<i>Cronbach's Alpha</i>	<i>N of items</i>
.860	10

From Table 4 it can be seen that Cronbach's alpha is 0.860 and the result is greater than 0.07, so the above information can be trusted. facts are considered reliable if Cronbach's alpha > 0.07.

Table 5. Test the validity of the posttest questions

No	Sig (2-Tailed)	Information	conclusion
1	0,000	< 0,05	Valid
2	0,000	< 0,05	Valid
3	0,000	< 0,05	Valid
4	0,000	< 0,05	Valid
5	0,000	< 0,05	Valid
6	0,003	< 0,05	Valid
7	0,000	< 0,05	Valid

8	0,000	< 0,05	Valid
9	0,003	< 0,05	Valid
10	0,000	< 0,05	Valid
11	0,000	< 0,05	Valid
12	0,000	< 0,05	Valid
13	0,000	< 0,05	Valid
14	0,000	< 0,05	Valid
15	0,000	< 0,05	Valid

Based on Table 5. The results obtained with 15 post-test question numbers tested on 36 students were stated to be valid and usable, meaning that an item is considered valid if it has a significant correlation with the general score. Information is considered valid if the significance value is > 0.05 .

Table 6. Reliability test of posttest questions

<i>Cronbach's Alpha</i>	<i>N of items</i>
.957	15

Based on table 6, it can be seen that the value of Cronbach's alpha is 0.957 and the results are consistently greater than 0.07, so the data is reliable. The data is declared reliable if the Cronbach's alpha value is > 0.07 .

Table 7. Normality Test

Statistik	<i>Pretest</i>		<i>Posttest</i>	
	control	Experiment	control	Experiment
Sig (2-Tailed)	.450	.006	.78	.460
sig level	0,05	0,05	0,05	0,05
conclusion	Normal	Normal	Normal	Normal

Based on table 7, experimental class data and control class data from the pretest and posttest results show a Sig Shapiro-Wilk value > 0.05 , which means that the data is normally distributed at the 95% confidence level.

Tabel 8. Uji Homogenitas

Statistics	Pretest		Posttest	
	Control	Experiment	Control	Experiment
Sig (2-Tailed)			.369	
Taraf sig			0,05	
conclusion	both data are homogeneous			

Based on table 8 it can be seen that the results of the homogeneity test obtained a significance value of 0.369, meaning that the value obtained was > 0.05 and the variance of the data groups was the same/homogeneous because a data was said to be homogeneous. if the significance value is > 0.05

Table 9. Test paired sample t test

Statistics	Pretest		Posttest	
	Control	Experiment	Control	Experiment
Sig (2-Tailed)		0,000		0,000
Taraf sig		0,05		0,05
conclusion	0.000 < 0.05 so that H_0 is rejected and H_1 is accepted			

Based on the results of the paired sample t test for the experimental class and the control class, a sig (2-tailed) value of 0.000 was obtained, which means sig and $lt; 0.05$. Thus it can be concluded that H_0 is rejected and H_1 is accepted, which means that brochure media has a very helpful effect on student learning outcomes when using the STAD type cooperative learning version.

Discussion

The results of an analysis of the research material conducted in the even semester of the 2022/2023 academic year SMA Negeri 3 Waingapu shows that there are significant differences in student learning outcomes using the STAD model with the help of books. and discoveries. in the learning model, the learning outcomes of STAD type students with pre-laboratory are higher than the learning outcomes of students using the discovery learning version.

The results of learning the basic abilities of the reference class and experiments were relatively weak. Before completing the learning process, a preliminary exam is carried out in the form of multiple choice questions with a total of 10 numbers. With this test, we want to know the ability of students, and at the end of the lesson, they will be given multiple choice questions, a total of 15 points. Preliminary exams are also carried out so that student learning outcomes are known after participating in learning. in the control class, the learning process was carried out using the Discovery learning version, while in the



experimental class the STAD type shared learning model was carried out using leaflet media. With the help of assisted learning media (STAD), students are more active in receiving information about the material, expressing opinions, being more active and understanding the material, and students are not bored in learning.

From the results of the analysis (Table 1) it can be seen that the pre-test average was 52.69 with the highest score being 87 and the lowest score being 20 in the comparison class, while the post-test average was 52.69. the test had the highest score of 75.83. score 100 and lowest score 20. In the experimental class, the average pretest score was 53.52, the highest score was 93, and the lowest score was 40, while the posttest average score was 84.58, the highest score was 100, and the lowest score was 40. Based on the score pretest and posttest and control class, namely in the experimental class, it can be interpreted that the STAD type learning process with the help of leaflet media can improve learning outcomes. can be seen in the calculation of the average position value. -class test, namely 84.58, while the average reference class is 75.83.

Based on the results of an analysis of the 10 questions in the multiple choice pretest format using SPSS (Table 3), it is known that the pretest questions have proven validity and can be tested. A total of 15 posttest questions are displayed in multiple choice format (Table 5), which shows that the questions presented are considered valid and students can test them. A device is said to be valid if it can measure exactly what Widoyoko (2018) wants to measure. That is, validity refers to the truth of a measuring instrument. According to Nazarudin and Basuk (2015), the purpose of the case study is to determine the significance of the factors used in the evaluation. The next step to test the reliability of the pretest and posttest items can be seen in (Table 4) where Cronbach's alpha is 0.860 in the pretest and Cronbach's alpha is 0.957 in the posttest. (Table 6) to achieve pretest reliability. and posttest questions are reliable because Cronbach's alpha > 0.07 . Information is considered reliable if it can be trusted Setyosari, (2016). Reliability is also related to low testing rates, it is very important that the data is reliable and not just search engine statistics.

In the next test to find out whether the hypothesis is accepted or not, the normality and homogeneity tests are first carried out before testing. Sample Normality Test from Regularly Distributed Populations with Shapiro Wilk, Sugiyono (2015). The normal distribution of data is a distribution that is completely symmetrical about the mean. This can be seen (Table 7) with a normal pretest value of 0.006 and a posttest of 0.460, which means that it is normally distributed because the sig value is greater than 0.05. If the significant value is > 0.05 then the facts are normally distributed. The next step is a homogeneity test to see whether the record is homogeneous or heterogeneous (Table 8) showing a value based on an average of 0.369 which is homogeneous data because the significance value is greater than zero.05. If the significant value $> 0.05 =$ homogeneous data. According to Setyosar (2016), if the two groups tested have the same average but the data distribution is different, the parametric test is difficult to interpret because the distribution between groups is compared.

then it can be seen from the results of the paired sample t test hypothesis test (Table 9) which shows that the post-test data for the experimental class got a sig (2-tailed) value of $0.000 < 0.05$, meaning a sig (2-tailed) value and < 0.05 so that H_0 was rejected and H_1 was accepted, so the use of the STAD type cooperative learning model with the help of leaflet media had an effect on the learning outcomes of class XI MIPA2 students about the human reproductive system in secondary schools. The third country of Waingapu. This is supported by research conducted by (Siska, A.2017) using the STAD model can affect learning outcomes in the cognitive field.

Yendrita and Neti (2021) also found that the use of the STAD type cooperative learning model had a significant effect on the biology learning achievement of class X students of SMK N 1 Talamau at



the 95% confidence level. Fitri and Laily (2020) also found that during learning, student performance increased after being given treatment, the average post-test results for the experimental class were higher than the average for the reference class, the application had a significant effect. Based on the results of STAD type cooperative learning, class VII students of MTsN 1 Jember study science objects and their observations.

Based on the explanation above, the STAD type model can improve learning outcomes of the human reproductive system, because this model has cooperation, responsibility both in groups and individually, which makes students more active and not bored. The learning process is also influenced by the learning environment used.

CONCLUSION

Based on research findings and research discussion, it can be interpreted that the learning version has an impact. Collaborative learning of the Student Teams Achievement Divisions (STAD) type helps improve the learning outcomes of the human reproductive system of SMA Negeri Tiga Waingapu students, this is evidenced by testing the hypothesis with paired sample t-tests. The results of the paired sample t test were 0.00 and t_0 ; 0.05. So it can be concluded that H_0 is rejected and H_1 is accepted.

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