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The Influence of the Problem Based Learning (PBL) Cooperative Learning Model on Improving the Learning Outcomes of Class XI SMA Dharma Utama Students

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ABSTRACT

This research was carried out with the aim of finding out the effect of the Problem Bassed Learning model on students' economic learning outcomes. The problem in this research is the low economic learning outcomes of class Data collection used to determine the desired results is using questionnaires and tests. Where previously it had been tested for validity, reliability and hypothesis testing, so that from the research results it was obtained that the average score of students achieved the expected learning objectives using the problem based learning model. This research hypothesis was tested using the SPSS program with a significance level of α=0.05, so that a calculated t value of 6.669 was obtained with a t table of 1.701. So the results of the Ha hypothesis are accepted and Ho is rejected. Thus, it can be concluded that there is an influence of the problem-based learning model on student learning outcomes in the material for calculating national income in class XI SMA Dharma Utama, Serdang Bedagai.

Keywords: Learning Model, Problem Bassed Learning, Learning Outcomes

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1. INTRODUCTION

Teaching and learning is basically an interaction or reciprocal relationship between teachers and students in educational situations. Therefore, teachers in teaching are required to have patience, tenacity and an open attitude as well as the ability to be in more active teaching and learning situations. Likewise, students are required to have enthusiasm and encouragement to learn. Economics subjects are basic subjects needed in social life. In general, economics is considered a boring subject, because learning involves more memorization. This indication can be seen from the unsatisfactory student learning outcomes. The low economic learning outcomes are not absolutely due to students' lack of ability in studying economics lessons, but there are other influencing factors such as learning models and teaching methods and how students engage in learning.

Based on interviews conducted by researchers with the class Observations in Class) is 76 . The data obtained by researchers in the initial review was in class This means that in studying Economics there are still many students whose scores are still low, namely below the KKM (Maximum Completeness Criteria). This can be seen from the following student score results table:

Table 1. List of Grade XI-1 Students of SMA Dharma Utama

Class XI-1 SMA				
No	Mark	The number of students	Frequency	Information
1	≥ 76	13 Students	43 %	Complete
2	< 76	17 Students	57 %	Not Completed
	Amount	30 Students	100%	

After observing the table above, there were 13 students who completed or 43%, and 17 students who did not complete or 57%. This shows that student learning outcomes are still relatively low. To overcome the problems above, it is necessary to update the way teachers teach which still uses the conventional model, namely lectures, by using varied learning models, the teaching and learning process can take place effectively and efficiently. One learning model that can be used to improve student learning outcomes is the Problem Bassed Learning Model, which is a learning model that is able to create quality interactions that can improve student learning outcomes.

In the teaching and learning process in class XI SMA there are several weaknesses that can affect student learning outcomes. Among them are:

1. Students pay less attention to the teacher's explanation during the learning process
2. Students lack the ability to learn economics
3. Students' concentration is less focused on learning
4. Teachers still use conventional learning models

These weaknesses are problems of design and learning strategies in the classroom that are important and urgent to be solved. Because interactions in learning will be crippled and have widespread consequences on the low quality of the learning process and outcomes. In order to solve the problems of conventional learning models, students' lack of understanding, low motivation and student learning outcomes, a more effective learning model is needed and places more emphasis on students' active learning in learning activities. One alternative that can be implemented is through the application of a cooperative learning model. Seeing this phenomenon, it is necessary to implement a learning system that involves students' active role in teaching and learning activities, in order to improve student learning outcomes at every level of education. One learning model that involves the active role of students is the problem based learning model, which in this learning model can improve students' understanding, transfer of knowledge, higher level thinking skills, problem solving abilities and scientific communication skills which are a direct impact of learning.

The cooperative learning model is a mutual cooperation learning model where the potential and capacity of students can be brought out together through joint learning. The problem-based learning model is a learning approach that guides students to find and solve problems through various experiments. (Polii & Polii, 2022)

2. METHOD

This research was conducted at Dharma Utama Private High School, Jalan Sukamaju No. 1, Sukasari Village, Pegajahan District, Serdang Bedagai Regency, North Sumatra Province. This research is descriptive using a sample of class XI SMA Dharma Utama, totaling 30 students. Researchers conducted research using pretest and protest questions and carried out direct observations. The sampling in this research used the "Total Sampling" technique, namely the entire population was sampled. Where the sampling technique is that all members of the population are sampled from all class XI-1 students because the number of subjects is less than 100 people.

To obtain the data needed in this research, the data collection technique used by researchers is a test which is a measuring tool used to determine a person's abilities with the aim of measuring expertise or talent in a particular field and a questionnaire which is a data collection method which has been carried out using how to give several kinds of statements.

3. RESULTS AND DISCUSSION

Results

Economic learning outcomes are the results that students have achieved in studying economic subjects obtained from test results expressed in the form of scores or numbers. The problem-based learning model is defined as a teaching procedure that emphasizes individual teaching. Students are left to discover for themselves or experience their own mental processes, the teacher only guides and provides guidance. So that learning involves students in the process of mental activity through exchanging opinions, discussing, reading for themselves and trying for themselves. In implementing the problem based learning model in class XI-1 SMA Dharma Utama. Students are seen as a population and sample in learning. The economic learning process is seen as a stimulus that can encourage students to carry out learning activities. In this learning, student motivation is maintained, so that students are more active, think, ask, search, and finally conclude the material taught with guidance.

The learning activities in this first meeting are the most important stage because the results and analysis of these learning actions will be used as material for researchers for learning actions at the next meeting. The first learning meeting for this research took 2 x 45 minutes. This first meeting begins with an appreciation, namely the teacher looks at the condition and situation of the study room and the condition of the students, then the teacher explains an overview of the learning material and conveys the learning objectives before the teacher begins learning. The teacher delivers learning material which contains material on calculating national income using the lecture method. After the teacher has finished teaching about calculating national income, students are required to do exercises. Then the teacher concludes the learning material. The students' activeness and abilities at this first meeting were still lacking, they only listened to the teacher a lot and did not have the courage to express, give responses, and many of the students' answers were not correct. In this case, the role of the teacher is very important in guiding students because they are not yet familiar with the learning being carried out. Learning activities at the second meeting began by repeating the previous material, namely regarding national income calculations. Then the teacher conveys the learning objectives and introduces the material that will be discussed, namely regarding the calculation of national income. Then the teacher starts learning and delivers the material using the problem-based learning model.

Research Data Analysis

Test Validity and Reliability Test

Before this research was carried out, the research first tested the test, in the form of testing the validity of the test and the reliability of the test. The number of tests tested for validity and reliability was 12 test items. Testing of this instrument was carried out at SMA Dharma Utama where it was tested on 30 students in class XI-2 who were considered to have the same criteria as the research sample. Based on the tabulation of answer scores on tests carried out on variable Y student learning outcomes, the instrument consisting of 12 questions answered by respondents was tested for validity and each question was used. Testing the validity of the test is carried out using SPSS 24 software to search for valid test items. Based on pretest validity calculations, the rcount value = 0.476, the rtable value for N= 30 at α=0.05 is 0.349. Thus, it is known that rcount > rtable, namely 0.613> 0.349 so that test no.1 is valid. The entire calculation results can be seen in the attachment. After testing the validity of the tests, of the 12 tests used to collect research data, 10 were valid, and were tested on the sample. After rcalculation was consulted with rtable with a significance level of 5% and N=30, of the 12 questions provided, only 10 questions were declared valid, the rest were invalid so that the validity of the questions taken for the research data was only 10 questions.

Next, to determine the reliability of the questions, the Cronbach's Alpha test of 10 questions was used. The reliability test shows that the test used is reliable enough to be used as a data collection tool or not. If the instrument is reliable (can be trusted) then the results can be trusted. To calculate reliability, the SPSS version 24 software program is used. The results of the reliability test questions can be seen in the table below.

Table 2. Reliability Test Results

Reliability Statistics

Cronbach's Alpha	N of Items
.755	10

From the results of the reliability test calculations in the table above, a Cronbach Alpha value of 0.755 was obtained. This value is greater than r table at the 95% significance level (= 0.05), namely 0.349. This figure shows that this question is proven to be reliable to use because rcount > rtable (0.755 > 0.349).

Normality test

The data normality test is used to determine whether a data distribution is normal or not. To test data normality using the Kolmogorov-Smirnov test. Based on the results of the data normality test using the Kolmogorov-Smirnov test which was processed using SPSS 24, the results shown in the table below were obtained.

Table 3. Kolmogorov-Smirnov

Tests of Normality

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Pretes Hasil Belajar	.172	30	.024	.966	30	.425
Postes Hasil Belajar	.172	30	.023	.962	30	.353

Based on the table above, a significant value of 0.425 was obtained on the pre-test learning outcomes, this value is greater than the significance level of 0.05, as well as the significant value of the post-test learning outcomes of 0.353, where this value is greater than the significance level of 0.05, so it can be It was concluded that from the pretest and posttest data the learning outcomes were normally distributed.

Simple Linear Regression Test

The linear data test was carried out to determine whether variable X (problem based learning model) and variable Y (learning outcomes) had a linear relationship or not. For more clarity, see the following table:

Table 4. Linear Regression Table

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	T	Sig.
1	(Constant)	61.416	42.192		3.856	.001
	Problem Bassed Learning	-689	.479	-441	-2.486	.000

Based on the results of the linear test in the table above, it is known that the linear regression equation is as follows: Y = a + bX, then Y = 61,416 + 0.689 that there is a linear relationship between variable X (problem based learning model) and variable Y (learning outcomes). This is because the significance value is 0.001 <0.05, and from the table above it is found that the calculated t value for variable X is (2.486). Because the calculated t value is greater than the t table (1.701), it can be concluded that there is a significant relationship between variables X and Y.

Discussion

The problem-based learning model is a model that teachers can use to develop students' creativity both individually and in groups. The problem based learning model is designed to help the mindset and division of responsibilities when students take part in learning. In this case, when faced with a problem or question, students solve the problem by selecting and developing their responses and input, so that students can develop motivation and broader thinking patterns to continue interacting and exchanging ideas with fellow friends in answering and solving problems. - existing questions. Student learning outcomes before using the problem based learning model showed very low learning outcomes and not using a varied model so that students were not motivated in learning, making students bored and fed up. It is possible that there are other factors that can influence student learning outcomes.

Based on linear regression test analysis, this research aims to examine the influence and economic learning outcomes of students in class XI-1 SMA Dharma Utama. Before the research was carried out, a trial test was carried out as a research instrument, from 12 questions which were declared valid, 10 items were declared valid and 12 items from the 15 questionnaire items were declared valid. These tests and questionnaires will be used as a tool for collecting data on economic learning outcomes.

Based on the overall calculation results of the questions and questionnaires used as research instruments, the test reliability value was 0.755, r count > r tabe (0.755 > 0.349) and the questionnaire reliability value was 0.744, r count > r table (0.744 > 0.349). Reliability questions and questionnaires

were distributed to students who were research samples and then data was obtained to find out how much influence the problem-based learning variable had on learning outcome variables and the truth of the hypothesis. Then the researcher conducted a pre-test first and obtained learning results that had not yet reached the KKM. As many as 63% of students did not reach the kkm out of a total of 30 students. After the pre-test, 52 researchers conducted a post-test after using the problem-based learning model to achieve increased student economic learning outcomes. Post-test learning outcomes increased by 80% from the number of 30 students who reached kkm. The results obtained from the research show that students tend to be enthusiastic in participating in learning that uses the problem-based learning model because they are involved in the teaching and learning process. Thus, the model is suitable for use in the classroom because it is proven to provide good results which can be seen from the high test scores obtained by students.

Based on the normality test of 0.425 > 0.05 normal distribution, the two samples have the same variance. The conclusion is that the problem based learning model has a positive and significant influence on student learning outcomes. Based on the simple linear regression test, t count > t table (2.486 > 0.689), it can be concluded that there is a significant relationship between the problem-based earning model variables and the learning outcome variables. Based on the hypothesis test, the calculated t value > t table (6,669> 1.701) is the accepted hypothesis (Ha is accepted), and it is known that the calculated t value < 6,669) is the rejected hypothesis (H0 is rejected). Ha is accepted which gives the conclusion that the problem based learning variable influences the learning outcome variables. There was an increase in learning outcomes 53 obtained by students after implementing the learning model using the problem based learning model in economics learning. So, with the results obtained by researchers, it can be concluded that there is a positive and significant influence on the problem based learning model on the learning outcomes of class Xi students at Dharma Utama High School.

4. CONCLUSION

Based on the results of research and discussion regarding the learning outcomes of Dharma Utama High School students using the problem based learning model. By implementing the problem-based learning model, it is known that student learning outcomes improve when taking part in learning material on calculating national income in class XI-1 SMA Dharma Utama. Hypothesis testing with the calculated t value > t table is 6.669 > 1.701. Ha is accepted which gives the conclusion that there is an influence obtained from the problem-based learning variable on the learning outcome variable. Class XI-1 learning results show quite good results. This shows that the student is considered good because the average score has reached the minimum score that students must obtain in studying Economics well.

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