

THE EFFECT OF PROBLEM SOLVING METHOD ON THE ANALYSIS ABILITY OF X CLASS STUDENT IN INDONESIAN BIODIVERSITY CONSERVATION EFFORT MATERIAL

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ABSTRACT

One of the methods that can be applied to achieve learning goal is the problem solving learning method. Problem solving method is a way or means of presenting lessons by encouraging learners to seek and solve a problem in order to achieve teaching objectives by relating experience and logic. Problem solving methods used to provide learning stimuli to learners to make them think real and analyze, solve problems and then take the conclusions of the problem. This research design using Non-equivalent Control Group Design with Quasi Experimental method (quasi experiment). The sample of this research is 80 students. Based on the results of student ability analysis shows that the implementation of learning using problem solving method is better than conventional learning. The result of the analysis of the average increase of mastery of students' experimental analysis of the experimental class reached 33,3% while the students' analysis ability in the control class was 19,2%.

Keywords: *analysis ability, learning method, problem solving*

INTRODUCTION

The report of The Trends in International Mathematics and Science Study (TIMSS) presented in the Ministry of Education and Culture's presentation in the 2013 public test of the curriculum shows that only 5% of Indonesian students can work on high category issues. In fact, students' analytical thinking ability in Indonesia is still low (Amirudin, 2015). Based on the reports and summaries of the Ministry of Education and Culture, only 5% of Indonesian students have analytical thinking skills, while most other Indonesian students only have the ability to know (Kurniawan, 2015). The results of observations made by giving some test questions, with three indicators such as differentiating (Differentiating), organizing (Organizing), and attribute (Attributing). Percentage of students who can answer test questions based on each indicator that is Differentiating 18,75%, Organizing 6,25% and Attributing 27,5%. Therefore, it can be said that the student's ability is relatively low it can be seen from the results of the overall student test shows the average score of 52,5 from the ideal score 100. This is because students have not been trained to analyze a problem in learning.

RESEARCH METHOD

This research is quantitative research and the design of this research using Quasi Experiments (quasi experiment) with Non-equivalent Control Group Design. Population in this research that class X are include X MIA 1, X MIA 2 and X MIA 3 class. The sample of this research is X MIA 2 class and X MIA 3 class using purposive sampling technique with total total is 80 students.

RESULT AND DISCUSSION

Table 1 is the result of pretest and final test (posttest) in both experiment and control class.

Table 1. Pretest and Posttest Score at Experiment and Control Class

No	Class	N	Score
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			Ideal Score	Minimum Score	Maximal Score	Average
1	Experiment	40				
	<i>Pretest</i>			10	72	40,03
	<i>Posttest</i>		100	70	90	79,15
2	Control	40				
	<i>Pretest</i>		100	16	68	39,12
	<i>Posttest</i>			22	82	56,53

The comparison of the pretest and posttest data obtained in the experimental and control classes is shown in Figure 1.

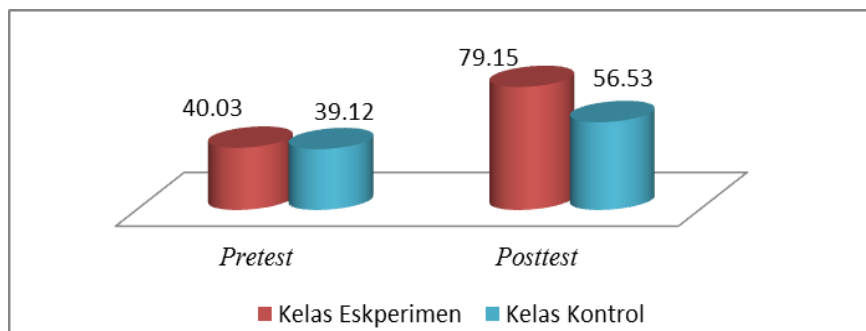


Figure 1. The Bar Chart of Pretest and Posttest Average

Completeness data of students' analysis ability obtained from pretest and final test (posttest) in both experimental and control classes are presented in Table 2.

Table 2. Completeness Data of Students' Analysis Ability Obtained from Pretest and Posttest at Experiment and Control class

No	Indicator	Completeness Percentage (%)			
		Experiment Class		Control Class	
		<i>Pretest</i>	<i>Posttest</i>	<i>Pretest</i>	<i>Posttest</i>
1	Differentiate	30	65	30	57,5
2	Organization	27,5	60	27,5	35
3	Atributionation	20	52,5	17,5	40

Table 1 shows that there are differences in the value of experimental and control classes from pretest and posttest. Based on the data obtained, it can be seen that the average value of students' experimental analysis ability using problem solving learning method in Biology lessons is higher than control class using discussion method (conventional learning). This statement is based on the average posttest value that is for the experimental grade grade of 79,15 and for the control class of 56,53. This is in line with the problem solving method that allows students to discuss concepts with their peers, thus helping students to find and understand the material being taught (Yustina et al., 2015). Table 2. presents the students' complete analysis ability data obtained from pretest and final test (posttest) in both experimental and control class as per analytical capability indicator. Includes differentiating, organizing and attributing. Then the results of hypothesis testing of this study indicate that Ha accepted means of problem solving learning method has an influence on the ability of student analysis.

CONCLUSION

The use of problem solving learning method has an effect on student's analysis ability on Biology subject in Class X. This can be seen from the acquisition of test scores result of students' analysis ability by using problem solving method is higher than learning by using discussion method. This is evidenced by the average value using problem solving method of 79,15 while the average value using the method of discussion

amounted to 56,53. Based on the results of hypothesis test data value, test results of students' analysis ability shows that the applications of the method significantly influence the improvement of student analysis skills.

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REFERENCES

- [1] Amirudin, A. 2015. *Pengaruh Model Pembelajaran Problem Based Learning Terhadap Kemampuan Berpikir Analitis Pada Mata Pelajaran Geografi Siswa SMA*. Dalam <http://artikel1845B61FA88BC15F68A48CC492552CB.pdf>. Accessed on Thursday, December 22, 2016.
- [2] Kurniawan, H. 2015. Analisis Keterampilan Pemecahan Masalah Pada Pembelajaran Matematika. *Prosiding Seminar Nasional Pendidikan*. ISBN: 978-979-3456-52-2.
- [3] Yustina, S., Irhasyurna, Y., & Kusasi, M. 2015. Penerapan Metode Pembelajaran Problem Solving Terhadap Kemampuan Berpikir Kritis Siswa Pada Materi Koloid Kelas XI IPA SMA Negeri 4 Banjarmasin. *Jurnal Inovasi Pendidikan Sains*, 108-117.