

**THE EFFECTIVENESS OF DOUBLE LOOP PROBLEM SOLVING ( DLPS )  
TECHNIQUE IN TEACHING READING COMPREHENSION TO THE FIRST GRADE  
STUDENTS OF SMA NEGERI 1 PANGKEP**

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**ABSTRACT**

Nurfajriah Basri. 2018. *The Effectiveness of Double Loop Problem Solving (DLPS) Technique in Teaching Reading Comprehension at the first Grade Students of SMA Negeri 1 Pangkep*. (Supervised by Kisman Salija and Sukardi Weda)

This research aimed at finding out whether or not Double Loop Problem Solving (DLPS) technique effective to improve the reading comprehension and to find out the effectiveness of literal and interpretative comprehension of the first grade students of SMA Negeri 1 Pangkep. This research employed a quasi-experimental design. The participants of this research were 32 students of X IPA 1 for control class and 32 students X IPA 3 for experimental group, academic year 2018/2019. This class was selected randomly from 10 classes through cluster random sampling technique. The data were collected through the pre-test and post-test in both control and experimental class. The findings of this research revealed that the students' reading comprehension after receiving the treatment made a positive progress. It can be seen through the mean score of the students' pretest which was 50.83 (poor classification) becomes 69.86 (good classification) in the posttest for the experimental group, while the students' pretest for control class was 53.47 (poor classification) becomes 63.61 (good classification) in the posttest. In this case, both of the groups get improvement after giving treatment, but the experimental group was higher than the control group ( $69.86 > 63.61$ ). It is the same with the students' literal comprehension in the pretest the mean score of the students in experimental class was still lower than the students in control class ( $34.81 < 35.19$ ) but in the posttest the mean score of the students in experimental class is higher

then control class (60.58 < 50.14) and in the students' interpretative comprehension in pretest of the students in experimental class still lower than control class (34.72 > 37.75) but in the posttest the mean score of the students in experimental class is higher than control class (55.00 < 49.72) it means that the students' literal and interpretative comprehension get improvement. To sum up, the use of Double Loop Problem Solving (DLPS) technique is effective to improve the students' reading comprehension.

**Keywords:** *Double Loop Problem Solving (DLPS) Technique, reading comprehension.*

## **INTRODUCTION**

Nowadays, reading is one of compulsory skills, which must be taught in all junior, and senior high schools in Indonesia. It is one of language skills that plays a very important role in academic or personal activities. It is considered essential for the students, when they are undergoing their education because reading is one way to get information. Through reading, students will get many advantages, such as gaining a lot of information, improving their knowledge and getting new ideas by understanding what they read. Furthermore, Nunan (2003:69) states that reading is an essential skill for students in order to ensure success not only in learning English, but also in learning another content class where reading is required. Therefore, students must have a good reading skill, because by having a good reading skill they will have a good reading comprehension. If students have a good reading comprehension, they will have a better chance to succeed their study. It is clear that in teaching reading, the main goal is comprehension of reading materials and everything that teacher can do to make reading easier for students must be a good idea.

When reading a text, there are three manners which represent the reader's identity (Österholm, 2006). Mental representation which is created by the reader and describes how the reader understands the text. Content literacy which refers to the ability to read, understand and learn from texts in a specific subject area. And the last one is cognitive processes, it is the process of using syntactic and semantic rules together with the activation of more specific prior knowledge and thus happens quite automatically. Having regard to reading activities, those three items have role to determine on whether or not the reader could understand the text. The specific processes include in that items are therefore required to enhance reading achievement. And problem solving is widely known as popular strategy to cover them all.

Double Loop Problem Solving (DLPS) is more focus on the ability of group reading. DLPS was first discussed by Argyris and Schön (1974). It is the attempt to get to the root of the problem to prevent further breaks from happening. DLPS entails the modification of goals or decision-making rules in the light of experience. The first loop uses the goals or decision-making rules, the second loop enables their modification, and hence it is called "double-loop". DLPS recognizes that the way a problem is defined and solved the problem.

Based on the background, the purposes of this study are to find out :

1. The use of Double Loop Problem Solving (DLPS) technique effective to improve the reading comprehension of the First grade students of SMA Negeri 1 Pangkep.
2. The effectiveness of the students' Literal comprehension through Double Loop Problem Solving (DLPS) technique at the first grade students of SMA Negeri 1 Pangkep.
3. The effectiveness of the students' Interpretative comprehension through Double Loop Problem Solving (DLPS) technique at the first grade students of SMA Negeri 1 Pangkep.

## **LITERATURE REVIEW**

Previous researchers have done their studies related to the implementation of DLPS. Umiyaroh and Handoyo (2017) conducted their research about the influence of double loop problem solving in spatial thinking ability, and the result of their research give significant effects against the spatial thinking ability, and the other research Rehelle Rahmani and Merza Abbas (2013) Their research investigated the effects of peer scaffolding in inquiry-based games on the tendency to engage in double-loop learning and performance in integrated science process skills, and the result also showed that peer scaffolding significantly increased the engagement in double-loop learning and significantly improved performance in integrated science process skills.

Harmer, (1991) defines reading as an exercise which is dominated by the eyes and the brain. The eyes receive the message in the printed page and the brain then has to work out or process the significance of the message.

Argyris (1974 : 4) states approach double loop problem solving, suggested here to gather limit difference existence from cause a problem, belong how until happen a problem. Therefore the student's university necessary put hand to two loop different solution, but mutual related. Loop solution one attributed to direct test and then design and apply temporary solution. Loop solution

two out for find cause higher the limit, and then design and implementing solution from problem root.

## **METHOD**

This study used quantitative research with quasi experimental design. Thus two groups namely experimental and control groups were involved. Besides, this study focused on double loop problem solving (DLPS) technique to improve reading comprehension.

Double Loop Problem Solving (DLPS) technique in teaching and learning reading is where the students work in group and read a reading text and answering a questions related to the text with a guidance from the teacher based on 5 steps of DLPS; identifying the problem, detecting direct cause, evaluating success from temporary solution, deciding to what problem root analysis is need, and designing problem root solution (designing root cause solutions).

The population of this research was the first year students of SMA Negeri 1 Pangkep that consist of 10 classes with two different departments : 6 classes of IPA (Ilmu Pengetahuan Alam) and 4 classes of IPS (Ilmu Pengetahuan Sosial). Each class has 320 students. The total number of the population was 320 students. The researcher used cluster random sampling and the researcher taken X IPA 1 for control class and X IPA 3 for experimental group.

The main instrument of this study was English Reading test. The text was taken from book and internet and will be based on student's level of comprehension. The content of the test was mainly based on the curriculum that is being used at the school. Furthermore, the test was given in pre-test and post-test. There were 5 essay questions about reading text that must be answered by the students within 60 minutes.

There are several stages had been completed in order to collect the data of this study. The first was giving pretest to know the prior knowledge of the students. After that, students in experimental class and control class had their different treatments. The experimental class was learning by using double loop problem solving while the control class was learning reading by using single loop problem solving. The treatment lasted for four meeting for each class. The last stage was giving posttest.

The procedure of data analysis also consisted of three stages, namely scoring English reading comprehension test in pretest and posttest of the students, scoring literal comprehension and scoring interpretative comprehension of the students, in order to find the final obtained score of

the students. Then, the score are converted it in 0 to 100 to be classified whether they are poor, fair, good or very good, testing the hypothesis (by using t-test with  $\alpha = 0.05$  level f significance for independent sample) and taking the final conclusion in order to answer the research questions.

## FINDINGS AND DISCUSSIONS

The first finding of this study was begun by the researcher 's report after compared the mean score of the students in experimental class and control class in pretest and posttest.

Table 1 Mean Score of the Students' PreTest and Post Test

No	Variable	Mean Score	
		Experimental Class	Control Class
1	Pre Test	34.77	36.48
2	Post Test	57.78	49.96
	Difference	23.01	13.48

The mean score of control class in posttest is lower than the mean score of experimental class ( $57.78 > 49.96$ ). Therefore, from the post test data, the researcher tested the hypothesis by using SPSS 21. The level of significance is set at  $\alpha = 0.05$ ,  $df = 70$ , and formula of the statistical hypothesis in this research was one tailed.

Based on the students' problem in reading comprehension that had been appeared in pre-test, the researcher conducted the treatment. The treatment was administered in order to help the students improve their reading comprehension. In this case, the researcher use Double Loop problem solving (DLPS) technique during the treatment as a strategy to improve students' reading comprehension in experiment group. While the control group teach by using Single Loop problem solving technique. The treatment was carried out into six meetings for both the control class and experimental class

In the first meeting, the researcher started the lesson by explaining to the students what reading comprehension was about, the important of learning reading and levels of comprehension. After the opening explanation, the researcher found that most students knew what reading comprehension was but they did not know what level of comprehension was. Then the researcher

explained about Double loop problem solving, the benefits of learning through the technique and how the technique was applied.

The first step of DLPS technique, the researcher divided the students into 6 groups in which each group consisted of 5 students. Next, she gave each group a reading text to read, then had them discuss the text with their own group members with Double Loop Problem Solving (DLPS) technique and presented their conclusion or summary about the text in front of the class while the other group were given a chance to ask question or giving comment. Each group presented the text by showing their own answers of the text. After that she gave worksheet of question about text which consisted of 5 essays that covered literal and interpretive comprehension. The last step, the students answered the worksheet and evaluate the questions and the answer together in classroom until every students understand the text which later on confirm by the researcher. The last step of double loop problem solving technique that applied in the experimental group was what makes it different with single loop problem solving in control class. In control class, the meeting end right after the students answered the worksheet test. This process happened through the remained meetings which is second until sixth meetings.

During the teaching and learning process using Double loop problem solving in experimental class, the students were excited to learn. It was based on the fact that the students enjoy to study in group. The students read the text confidently and discussed about the text with their friend. They were given a chance to show their ideas about the text and also allowed to listen to their friend's ideas about the text as well. It facilitated the students to finish the tasks better and faster. Furthermore, the students were also given chance to ask and discussed more about the text with their friend until every students understand about the text.

During reading and discussing the text, the researcher walked around to superintend the students and help them when they faced some difficulties. Some students got difficulties in understanding the word or vocabularies. The researcher overcame these difficulties by giving them a chance to use a dictionary and also asking their group members.

After conducting the last treatment, the researcher assumed that six treatments were enough for the students and for this research to know the result. The researcher conducted a post-test on April, 16<sup>th</sup> 2018. It was intended to find out whether the treatment improved the students' reading comprehension. The reading test used in post-test was the same as the pre-test. The researcher

identified that there was an improvement on the students' reading comprehension in both experimental and control class.

### **1. Using Double Loop Problem Solving (DLPS) Technique**

Based on the previous findings, the comparison of the students' improvement in experimental and control class can be proven by analyzing the posttest result. The result shows that the mean score of the students' posttest in both of the groups is increased after giving the treatment. It can be seen through the mean score of the students' pretest which was 50.83 (poor classification) becomes 69.86 (good classification) in the posttest for the experimental group, while the students' pretest for control class was 53.47 (poor classification) becomes 63.61 (good classification) in the posttest. In this case, both of the groups improved after giving treatment, but the experimental group was higher than the control group ( $69.86 > 63.61$ ) (See table 4.3). Besides, compared to the result of the experimental research conducted by Umiyaroh & Handoyo (2017), the result of this current research got higher mean score improvement in both experimental and control classes. In Umiyaroh & Handoyo's finding (2017), the experiment class gain score is 15.8 and control class gain score is 9.5. Meanwhile, in this research, the experimental class gain score is 23.01 and control class gain score is 13.48.

To sum up all of findings and discussions above, the researcher concludes that the use of use of Double Loop Problem Solving (DLPS) technique is effective to improve the students' reading comprehension.

### **2. The Effectiveness of the Students' Literal comprehension through Double Loop Problem Solving (DLPS) technique**

The previous researches had not explored the effectiveness of Double Loop Problem Solving (DLPS) in reading comprehension more specific like this current research. The effectiveness of DLPS in this research is divided into two aspects of reading comprehension: literal and interpretative. In this part, literal aspect is going to be firstly described before interpretative aspect.

Table 2: The Mean Score between Pretest and Posttest of Experimental Class and Control Class in Literal Aspect of Reading Comprehension

Class	Mean Score		Difference
	Pretest	Posttest	
Experiment	34.81	60.58	25.77
Control	35.19	50.14	14.95

From the tables above, the first is literal comprehension in the pretest the mean score of the students in experimental class was still lower than the students in control class ( $34.81 < 35.19$ ) but in the posttest the mean score of the students in experimental class is higher than control class ( $60.58 > 50.14$ ). It means that the ability of the students in both classes to understanding the idea and information explicitly stated in the reading material were averagely in the same level . However the performance of students of control class was better than the students of experimental class before the researcher gave treatment.

### 3. The Effectiveness of the Students' Interpretative comprehension through Double Loop Problem Solving (DLPS) technique

Table 3: The Mean Score between Pretest and Posttest of Experimental Class and Control Class in Interpretative Aspect of Reading Comprehension

Aspect	Mean Score		Difference
	Pretest	Posttest	
Experiment	34.72	55.00	20.28
Control	37.78	49.72	11.94

From the tables above , the second is interpretative comprehension in this aspect the mean score in pretest of the students in experimental class still lower than control class ( $34.72 < 37.75$ ) but in the posttest the mean score of the students in experimental class is higher than control class ( $55.00 > 49.72$ ). It means that the ability of the students in both classes to make conclusion and prediction get improvement.

## CONCLUSION

Based on the research questions that have been presented previously and also the findings of this study, the researcher takes some conclusions. First, Double Loop Problem Solving (DLPS) is effective to improve the reading comprehension of X IPA 3 class. It was proved by the result of hypothesis testing which signed that the hypothesis alternative is accepted as the t test result is higher than the t table. Second, the improvement of literal aspect gets higher score than the aspect of interpretative in experimental and control class. Third, the improvement of interpretative aspect gets lower score than the aspect of literal.

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