

## DISCOVERY LEARNING ACTIVITIES AS AN ALTERNATIVE MODEL IN TEACHING READING AT SMAN 1 KOMODO

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### ABSTRACT

This research employed quasi experimental design. The population of this research was the second-grade students at SMAN 1 Komodo in 2021/2022 academic year. This research used cluster random sampling. The sample of this research consisted of 72 students in which 37 students in control group and 35 students in experimental group. The research data were collected by using reading comprehension test which was analyzed by descriptive and inferential statistic through SPSS version 16 for windows 7 32 bit. The students' result of posttest of experimental group more significantly improved than the students' result of posttest of control group by the mean score  $69.14 > 46.12$ . The difference of both scores is statistically significant based on the t-test value at significant level 0.05 in which the probability value is longer than the significant level ( $0.00 < 0.05$ ). Then the results of the pre-test showed that the p-Value (probability value) was higher than ( $0.46$  and  $0.48 > 0.05$ ) and the degree of freedom was 70. While the post-test p-Value of the two groups was lower than ( $0.00 < 0.05$ ) and 70 degrees of freedom. The t-test scores of the two groups in the post-test were significantly different. This shows that the alternative hypothesis (H1) is accepted and of course the null hypothesis (H0) is rejected. It was concluded that the use of Discovery Learning is effective to be implemented in improving the students' reading comprehension focusing on literal, inferential and critical comprehension.

*Keywords: Discovery Learning, Alternative Model, Reading*

### INTRODUCTION

Reading is a part of curriculum recommended in the school. Therefore, it is important for the students to study the subject. According to Smith (Ginting,2005) that reading is a process of building an understanding of the written text. Beside that, reading is the way for the students to get information from written word and an interaction process between the text and the reader. Through reading, the reader gained benefits such as gaining a lot of information, improving their background knowledge, solving problems related to the reading text, and getting new ideas by comprehending a reading passage.

Based on the researcher brief interview with several students of SMAN 1 Komodo, the researcher found that there are several factors that cause problems in learning to read. One of them is due to the lack of background knowledge of students such as related ideas, language elements, and text structure. As a result, they are less able to connect their thoughts with the reading topic being taught so that they find it difficult to understand the text well. The next factor is the students' lack of vocabulary. Students generally cannot understand the text

because of the many difficult words. For example, students choose not to continue reading the text because the whole meaning of the text is determined by these unknown words. They would rather stop reading and ask other friends about the information presented in the text rather than understanding about the text.

Applying the Discovery Learning Activities as Alternative Model in teaching reading comprehension, enable the students to take an active part and support their background knowledge. Discovery learning and collaborative learning are examples of learning contexts that cater for knowledge construction processes Saab, et al. (2005) This procedure helps student see how main ideas and supporting detail from a relational structure relates to the reading text. This procedure direct students to focus on findings certain message in the text that follow. Furthermore, this procedure made them to have a mind map and apply critical thinking while reading. Besides, this procedure directly activated the students' background knowledge. Above all, this procedure in teaching comprehension was said to be novelty as it is different from previously conducted studies.

Referring to the curriculum being implemented at SMAN 1 Komodo, the reading is distributed in English subject. Therefore, the students did not get much input in order to explore more about the content of reading. In the researcher point of view, this is a crucial problem. Considering the problems above, the researcher applied Discovery Learning Activities as Alternative Model in Teaching Reading in order to solve the students' lack in comprehending the reading text. Therefore, this research is urgent to carry out to find out a solution of the problem.

Based on the preliminary observation conducted at SMAN 1 Komodo, the researcher found that the students reading comprehension was poor (scores range from 70 to 85) . In the teaching and learning activity, the researcher found that many students still found it difficult to comprehend the reading text. Most of the students could not find the important information of the text. Besides, only a few of the students could comprehend what they have read. It might be caused by from several factors, such as the students lack vocabulary, less background knowledge related to the topic of reading text, and interest to read.

Apart from the importance, urgency, and novelty, this study is feasible to conduct at SMAN 1 Komodo as the researcher has contacted the management of SMAN 1 Komodo about his plan to investigate students reading comprehension under the title "Discovery Learning Activities as an Alternative Model in Teaching Reading at SMAN 1 Komodo" and the management agreed and highly welcome the research plan.

## METHOD

This research will be carried out at SMAN 1 Komodo. This research will schedule on 2022. The population of this research are the second-grade students at SMAN 1 Komodo in 2021/2022 academic year consisting of 428 students from 12 class. According to Setiyadi (2006;38) sample is the member who gives the data and representative the population of the research. The sample of the research is determined by random sampling. In this research the writer took Class C as a sample of experiment class while Class B as the control class. To obtain the data

on the students reading comprehension, the writer used reading comprehension test. It is intended to measure the students' literal, interpretative, and critical comprehension. The instrument of the research is multiple-choice test consisting of 20 questions. The score for each correct item was 5. The assessment dealing with literal, interpretative and critical questions are gathering. The score of the correct answer is classify into 0-100 and convert into 1-4 category referring to the curriculum at SMAN 1 Komodo. In collecting the data, the writer collected the data by employing these procedures: Pretest, treatment, and posttest. Calculating the mean score, finding out the standard deviation of pretest and posttest, computing the frequency and the rate percentage of the students' scores and testing the hypothesis of significant difference between the means of two groups on some independent variable by calculating the value of independent T-test using SPSS version 16 for Windows 7 32bit.

## FINDINGS AND DISCUSSION

The data presented are the result of the written test. Based on the analyzed, the description of the data of each group were presented as below: The result of students score on pre-test and posttest of experimental group will be presented in the table as displayed in the following table.

Table 1 The Students' Score and Classification in Pretest and Post test of Experimental Group

No	Initial	Test Score		Classification	
		Pretest	Posttest	Pretest	Posttest
1.	ASM	45	85	Fairly Good	Very Good
2.	ASP	30	65	Poor	Good
3.	AA	30	60	Poor	Fairly Good
4.	ATP	35	75	Poor	Good
5.	AGS	30	60	Poor	Fairly Good
6.	AT	40	85	Fair	Very Good
7.	AL	30	65	Poor	Good
8.	ATR	20	55	Poor	Fairly Good

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9.	AS	30	65	Poor	Good
10.	AAR	25	50	Poor	Fairly Good
11.	AHR	30	65	Poor	Good
12.	CHS	30	65	Poor	Good
13.	CNM	50	95	Fairly Good	Excellent
14.	DLN	30	50	Poor	Fairly Good
15.	DP	30	65	Poor	Fairly Good
16.	EP	25	50	Poor	Fairly Good
17.	EAL	50	80	Fairly Good	Very Good
18.	EAR	35	65	Poor	Good
19.	EETL	55	95	Fairly Good	Excellent
20.	FRP	50	90	Fairly Good	Very Good
21.	FGS	25	55	Poor	Fairly Good
22.	GAS	30	70	Poor	Good
23.	HHL	35	70	Poor	Good
24.	HM	30	65	Poor	Good
25.	ILA	45	80	Fair	Very Good
26.	JMR	30	65	Poor	Good
27.	LDP	45	80	Fair	Very Good

28.	LMR	30	70	Poor	Good
29.	MN	30	65	Poor	Good
30.	MAT	35	75	Fair	Good
31.	MP	30	65	Poor	Fairly Good
32.	NEM	40	75	Fair	Good
33.	RBS	30	65	Poor	Good
34.	RKT	30	60	Poor	Fairly Good
35.	RA	45	75	Fair	Good

The result of students score on pre-test and posttest of experimental group will be presented in the table as displayed in the following table.

Table 2 The Students' Score and Classification in Pretest and Post test of Control Group

No	Name	Test Score		Classification	
		Pre test	Post test	Pre test	Post test
1.	ALP	40	60	Fair	Fairly Good
2.	ASTR	30	65	Poor	Fair
3.	AD	30	65	Poor	Fair
4.	AZR	40	50	Fair	Fairly Good
5.	ADRL	45	60	Fair	Fairly Good
6.	AST	40	45	Fair	Fair
7.	AT	35	45	Fair	Fair
8.	AGS	30	40	Poor	Fair
9.	ABS	30	60	Poor	Fair
10.	APN	30	65	Poor	Fair
11.	BP	40	65	Fair	Fair
12.	BTL	45	55	Fair	Fairly Good
13.	CWR	40	45	Fair	Fair
14.	CRMB	45	55	Fair	Fairly Good

15.	DS	50	60	Fairly Good	Fairly Good
16.	ECM	55	65	Fairly Good	Good
17.	ESB	55	65	Fairly Good	Good
18.	FFP	40	50	Fair	Fairly Good
19.	GMP	40	45	Fair	Fair
20.	GPS	30	45	Poor	Fair
21.	HP	30	40	Poor	Fair
22.	IAPG	30	60	Poor	Fair
23.	IP	30	65	Poor	Fair
24.	MP	30	65	Poor	Fair
25.	MDP	40	50	Fair	Fair
26.	MLPP	40	40	Fair	Fair
27.	NYP	45	45	Fair	Fair
28.	NJT	30	45	Poor	Fair
29.	NLA	35	40	Fair	Fair
30.	RR	35	60	Fair	Fair
31.	RPS	35	65	Fair	Fair
32.	RAL	30	65	Poor	Fair
33.	SPP	40	50	Fair	Fair
34.	SOR	45	60	Fair	Fairly Good
35.	SP	40	45	Fair	Fair
36.	VR	50	55	Fairly Good	Fairly Good
37.	WAT	50	55	Fairly Good	Fairly Good

### Scoring classification of the students' pretest for experimental and control group.

As being stated earlier that after tabulating and analyzing the students' scores into percentage. They were classified into six levels. The following table is the students' pretest score and percentage of experimental and control group.

Table 3 The Percentage of Students' Pretest Score

Classification	Score	Experimental Group		Control Group	
		Frequency	Percentage	Frequency	Percentage
Excellent	91-100	-	-	-	-
Very Good	76-90	-	-	-	-
Good	61-75	-	-	-	-
Fairly Good	46-60	4	11.4%	5	13.5%
Fair	31-45	9	25.7%	20	54%
Poor	16-30	22	62.9%	12	32.5%
Total		35	100%	37	100%

### The mean score and standard deviation of students' pretest for experimental and control group.

After calculating the result of the students' pretest, the mean score and standard deviation are presented in the following table.

Table 4 The Mean Score and Standard Deviation of Students' in Pre test

Group	Mean Score	Standard Deviation
Experimental	30.22	8.859
Control	38.51	7.625

Based on the classification of reading comprehension test, the mean score of the control group (38.51) was categorized 2 (C) and classified as fair with the standard deviation 7.625. In the experimental group, the category 1.5 (C-) and classified as poor was clearly identified by the mean score was 30.22 with the standard deviation 8.859.

Scoring classification of the students' posttest for both experimental and control groups. The following table is the statistical summary of the students' posttest of both groups.

Table 5 The Percentage of Students' Post test Score

Classification	Score	Experimental Group		Control Group	
		Frequency	Percentage	Frequency	Percentage
Excellent	91-100	3	8.5%	-	-
Very Good	76-90	5	14.3%	-	-
Good	61-75	19	54.3%	2	5.4%
Fairly Good	46-60	8	22.9%	10	27%
Fair	31-45	-	-	25	67.6%
Poor	16-30	-	-	-	-

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Total	35	100%	37	100%
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From the classification, the scores, and the rate percentage of the experimental group were illustrated in the table above showed that from 30 students, three of the bottom categories, fair, poor, and very poor were not employed by anyone of them. There were 3 (8.5%) students categorized 4 (A) and leveled as excellent, 5 (14.3%) students categorized 3.5 (A-) and classified as very good. Besides that, there were 19 (54.3%) students can gain 3 (B) category and classified as good, 8 (22.9%) students categorized 2.4 (B-) and classified as fairly good.

In control group showed that from 37 students, there were 2 (5.4%) students categorized 3 (B) and classified as good, 10 (27%) students categorized 2.5 (B-) and mentioned as fairly good. In the next level categorized 2 (C) and classified as fair which was dominated by 25 (67.6%) students. It was reported that none of the students reached the excellent, very good and poor category in posttest.

### **The mean score and standard deviation of students' posttest for experimental and control group.**

The following table presents the mean score and the standard deviation of both groups.

Table 6 The Mean Score and Standard Deviation of Students in Posttest

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Group	Mean Score	Standard Deviation
Experimental	69.14	11.788
Control	46.62	7.910

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Table showed that the value of control group was 46.62 categorized as 2.5 (B) for its mean score with the standard deviation obtained 97.910. For the experimental group, the mean score was 69.14 and categorized as 3 (B) with the standard deviation value at 11.788. It can be referred from the description of the mean score and the standard deviation for both groups after the research (pretest and posttest) showed an improvement. The mean score for control group 38.51 in pretest to 46.62 in posttest. Besides that, control group only reached fairly good classification in posttest. Following the control group, the experimental group also shows an improvement in reading comprehension using Discovery Learning. But the experimental group produces a better improvement or a higher achievement that turns from 34.57 in pretest to 69.14 in posttest or classified as poor to good.

### **Test of significance (t-test).**

T-test is a test to measure whether there is a significant difference between the results of the students' mean scores in the pretest and the posttest yielded by the control and the experimental group. By using inferential analysis of t-test or test of significance run by SPSS Version 16, the significant differences can be easier to analyze. The level of significance is  $(\alpha) = 0.05$  and the degree of freedom

(df) = 70,  $N_1 + N_2 - 2$ , the number of students of both groups (each 35 and 37) minus 1. The following table illustrates the t-test value result:

Table 7 The Independent t-test Value of Students' Achievement on Control and Experimental Group

Variables	Probability Value	A	Remarks
Pretest of control and experimental group	0.46 and 0.48	0.05	Not Significant
Posttest of control and experimental group	0.00	0.05	Significantly different

Based on the result of data analysis as summarized in table 4.5 pretest of control and experimental group, the researcher found that the p-Value (probability value) is higher than  $\alpha$  ( $0.46$  and  $0.48 > 0.05$ ) and the degree of freedom 70. The t-test value of experimental and control group in pretest was remarked not significant. Meanwhile, the p-Value of posttest from both groups was lower than  $\alpha$  ( $0.00 < 0.05$ ) and the degree of freedom was 70. The t-test value of both groups in posttest was remarked significantly different. It indicated that the alternative hypothesis ( $H_1$ ) was accepted and, of course, the null hypothesis ( $H_0$ ) was rejected. It showed that the use of Discovery Learning significantly improved students' reading comprehension in experimental group. It is more effective, more productive, and faster to improve the students' reading comprehension through Discovery Learning.

## Discussion

The study sought to know if literal, inferential and critical question would increase the students' reading comprehension. After the writer gave the students pretest, the result showed most of the students could answer the literal question rather than inferential and critical question. By noticing the result of students' pretest, the researcher assumed that the prior knowledge of the students was poor in inferential and critical question. From the pretest and post result show that most of the students could not answer inferential and critical question.

The result of posttest indicates that the use of Discovery Learning gives progress significantly toward students' achievement in reading comprehension. It means all the students could achieve their reading ability; it is proved by the students' mean score before and after the treatment gets increase as stated before. The reading comprehension achievement showed better in the experimental group compared to the control group. The experimental group was two levels higher than the control group from poor classification turned to good.

The statistical data based on the t-test through SPSS Version 16 to test the hypothesis indicated that the probability value of the experimental group is lower than alpha ( $\alpha$ ) in which ( $0.000 < 0.05$ ). It means that the  $H_1$  of the hypothesis was accepted. Based on the research findings, the researcher may point out that before giving the treatment (pretest), almost all the students got fair and poor classification in reading comprehension. The difficulties that the students faced are especially to read the text first then continue to read the question. Most of the students read the question two until three times then find the answer in the reading

test. This is one of the problems that may waste the time in answer the questions. Sometimes, it made the students confuse because they need to remember the information in the text first before read and answer the question.

Based on the results of data analysis that has been carried out, it can be concluded that the use of Discovery Learning activities as an alternative model in teaching reading is very effective.

## CONCLUSION

Based on the research findings and discussion in the previous chapter, the writer finally concluded. The student's reading comprehension was improved. That is, the use of the discovery learning activity model as an alternative model is an effective way of teaching reading subjects that focus on literal, inferential, and critical understanding. The use of discovery learning activities in teaching reading achieves students' reading comprehension; not only that, in this conclusion the researcher can also conclude that the use of discovery

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