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The Effect of Critical Thingking to Improve Student's Reading Skill at SMA Negeri 1 Sanana

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Abstract

The aim of this research was to determine whether or not there was an effect of critical thinking on the reading skills of second grade students at SMA Negeri 1 Sanana. Research used quantitative research methods using *a non-equivalentcontrol group* research design. The samples in this study were natural science 1 and social science 1 with a sample size of 15 students and were selected using *stratified random sampling*. This research was conducted using two groups, namely the experimental group and the control group. Both groups were then given a *pre-test* and *post-test*. However, only the experimental group received treatment. This research instrument is multiple choice and consists of 20 questions. In analyzing the data, research used SPSS-22 to analyze descriptive data to determine students' categories and grades and inferential analysis to determine normality, homogeneity, reability and hypothesis tests *(independent sample test*). The results of data analysis show that there is a difference between students' scores on the pre-test and post-test, the results of the effect of effective critical thinking, proven by the students' results before and after being given treatment, their score with the average pre-test score for experimental class students is 55 .00 while the average post-test score was 78.80 after treatment, and also the control group had a pre-test total score of 62.33, and the students' post-test total score was 68.53. in the inferential analysis the data from the pre-test and post-test were normal and homogeneous, is so the researcher used the t-test by comparing the results of the two groups then the independent test results of the samples in the experimental class were 3,740> 1.76 with a 2-tailed sig value of 001 <0.05 and in the control class it is -1.568>.1.76 with a tailed sig-2 value of 128.>0.05. This means that the effect of critical thinking to improve students' reading skills in the experimental class has a significant influence. Researcher concluded that the critical thinking can give good effects to improved the reading skills of second grade students at SMA Negeri 1 Sanana because it allows students to conclude and understand reading material, there for the researcher recommend to English teachers in order to apply critical thinking to students to provide understanding and improve student's reading skill.
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INTRODUCTION

Critical thinking is the ability to analyze information objectively, rationally and in depth. Critical thinking involves a systematic evaluation process of information, arguments, or situations before making a decision or concluding something. In general, critical thinking is divided into several characteristics, namely, analytical, logical, objective, reflective, creative, innovative, systematic, and critical.

Critical thinking to analyze information objectively and rationally, so that it can help improve a person's reading skills. By thinking critically, a person can understand texts better, identify strong and weak arguments, and evaluate the information provided

by the author. Several ways to improve critical thinking skills in reading are by paying attention to context, looking for additional information, and evaluating the arguments presented. Apart from that, a person can also improve their reading ability by reading regularly and practicing effective reading techniques. In the world of education, critical thinking skills and good reading are very important for success in learning. With this ability students can understand the information provided by the teacher, and can make the right decisions based on the information available. Therefore, it is important for students to continue to improve their critical thinking and reading skills in order to improve their reading skills.

Students need to think critically because this ability can help them understand information better and develop better reading skills. By thinking critically, students can understand texts better, identify strong and weak arguments, and evaluate the information provided by the author. Critical thinking can also help students develop more effective reading skills. By paying attention to context, seeking additional information, and evaluating the arguments presented, students can improve their reading skills and understand texts better. Currently, critical thinking is also a challenge for students and teach.

Critical thinking according to Sanjaya (2010) is a person's mental activity that is more than just remembering and understanding. Remembering basically only involves storing something that has been previously experienced and then bringing it out again upon request, while understanding requires acquiring what is heard and read and seeing the connections. various aspects of memory

According to Khodijah (2014), the definition of thinking is processing information cognitively or mentally, thus thinking means a process that mediates between stimulus and response. Rahayuningsih and Setiawan (2018) define critical thinking as an attitude of thinking deeply about various kinds of problems and variousthings that are within one's reach, knowledge of logical examination and reasoning methods, and the skills to apply these methods.

Robert (2015) explains that "Critical thinking is thinking that makes sense and focused reflection to decide what should be believed or done" meaning that critical thinking is thinking reasonably and reflectively by emphasizing making decisions about what to believe and do. This opinion can be interpreted that in essence, when thinking, humans are learning to use their thinking abilities intellectually and at the same time alternatives and solutions to the problems being faced arise, so that when thinking, humans can decide what to do because decision making is part of critical thinking.According to Sapriya (2011) the purpose of critical thinking is to examine an opinion or idea, including making judgments or thoughts based on the opinions put forward. These considerations are usually supported by justifiable criteria. Critical thinking skills can encourage students to come up with new ideas or thoughts about world problems. Students will be trained on how to select various opinions, so they can distinguish which opinions are relevant and irrelevant, which are true andwhich are not. Developing students' critical thinking skills can help students make conclusions by considering data and facts that occur in the field.Reading is a process carried out and used by readers to obtain the message the writer wants to convey through the medium of words/written language (Tarigan, 2008).

According to Soedarso (2005) reading is a complex activity involving a large number of separate actions, for example the reader must use understanding and imagination, observe and remember to obtain information in reading. According to Nurhadi (2010) reading is a complex and complicated process. Complex means that in the reading process various internal and external factors are involved in the reader. Internal factors can be intelligence (IQ), interests, attitudes, talents, motivation, reading goals, and

so on. External factors can be in the form of reading facilities, reading texts (simple-hard, easy-difficult), environmental factors, or socio-economic background factors, reading habits and traditions.Reading is defined as voicing words, knowing words and meanings reading text. In accordance with Farida's opinion in(Kurniawan, 2016). According to Dalman (2014) Reading is an activity or cognitive process that tries to find various information contained in writing and reading.

According to Somadayo (2011) is an interactive activity to extract and understand the meaning or significance contained in written material. Darmadi (2018) argues that reading is a process that involves visual abilities and cognitive abilities. Both of these abilities are required for readers to understand and provide meaningful letters and symbols. Reading starts from symbols that are seen through skills Visually, the reading symbols are processed correctly and critically so that written text can be understood. Syafi'ie expressed the same opinion (in Darmadi 2018) reading is a series of eye movements following the rules of writing, focusing on words and groups of words, revise words and groups of words to understand the reading.

METHODOLOGY

This study uses a quantitative design to analyze students' ability skill in reading skills. This research use non equivalent control group design that consist of two classe, One class would be treated as the experimental class, and other classes would be treated as the control class. In the experimental class, the location was at SMA Negeri 1 Sanana, with the number of students are 30 person. Instrument applied by the research was test. This test was given in the form multiple choices (20 numbers) in order to know the student's applied the effect critical thinking to improve student's reading skill. After collect the data, the next step is analyzing data by following the rules below:

1. Checking the student's answer sheet.
2. Correcting the students answer sheet one by one.
3. Giving the students' score. Scoring system of the test was given score five to each correct answer and zero to the wrong answer. Then, the total of correct answer was divided by the total test item and multiplie choice by 100, so that the highest score was 100. The researchers used formula of percentage:

No	Score	Category
1	85-90	Excellent
2	76-80	Very Good
3	71-75	Good
4	66-70	Fairly Good
5	60-65	Fair
6	50-55	Poor

$$P = \frac{F}{N} x100\%$$

Where:
P = Percentage of the students
F= Frequency
N = Total Sample

$$X\frac{\sum_x}{N}$$

X = Mean

$\sum_x$ = Total Score
N = The number of students

$$x^2 = \sum_{i=1 \leftarrow fn}^{k} fo - fh^2$$

Information: $\boldsymbol{fo}$ = The information data frequency
$\boldsymbol{fh}$ = The ideal data frequency

$$f = \frac{SD^2bs}{SD^2kt}$$

Information:
SD^2bs = Biggest variance
SD^2kt = Smallest variance

$$t_o = \frac{M_1 - M_2}{SE_{M1} - M2}$$

in which :

M_1 = Mean of variable X (Experimental class)
M_2 = Mean of variable Y (Controlled class)
SE = Standard Error

RESULT

The researchers would discuss the result of the research. There are 20 students as the subject of the research and researchers used multiple choice tests consist of 20 items. The test was used to know the students' The effect of critical thinking to improve student's reading skill at SMA Negeri 1 Sanana.

Tabel 2. The Score and Category Student of Pre-Test in the Experimental Class

No	Category	Score	Frequency	percentage
1	Excellent	85-90	0	0%
2	Very Good	78-80	1	6%
3	Good	71-75	2	13%
4	Fairly good	66-70	2	13%
5	Fair	60-65	2	13%
6	Poor	50-55	8	55%
TOTAL N			15	100%

Table 2 shows that not a single student got a score of 85-90 or (0%). In the assessment, the score is in the Very Good category. 1 student got a score of 76-80 or (6%) in the very good category, while 2 students got a score of 71-75 or (13%) in the good

category. Then 2 people or (13%) students got a score of 66-70 and were included in the quite bad category. Apart from that, there were 2 students in the sufficient category, getting a score of 60-65 or (13%) and 55% of students or 8 other students in the poor category who got a score of less than 55. In conclusion, the pre-test results in the experimental class were lower because there were no students who got a score of more than 85 in the very good category.

Table 3 The Score and Category Students of Post-Test in the Experimental Class

No	Category	Score	Frequency	percentage
1	Excellent	85-90	4	28%
2	Very Good	78-80	2	13%
3	Good	71-75	2	13%
4	Fairly good	66-70	2	20%
5	Fair	60-65	3	13%
6	Poor	50-55	2	13%
TOTAL N			**15**	**100%**

After receiving treatment through reading test, the students showed good improvement in this class. As seen in table 4.2 above, there are 4 students who got a score of 85-90 or (28%) and were categorized as very good. A total of 2 students obtained scores of 78-80 or (13%) in the very good category. Meanwhile, 2 students got a score of 71-75 or (13%) and were in the good category. Furthermore, 2 or (13%) students obtained a score of 66- 70 and were included in the quite bad category. Apart from that, 3 students got the sufficient category, getting a score of 60-65 or (20%). 2 or (13%) students got the poor category, namely the score obtained was less than a score of 55.

Table 4. The Score and Category Students of Post-Test in the ExperimentalClass

No	Category	Score	Frequency	percentage
1	Excellent	85-90	0	0%
2	Very Good	78-80	0	0%
3	Good	71-75	3	20%
4	Fairly good	66-70	1	6%
5	Fair	60-65	6	33%
6	Poor	50-55	15	40%
TOTAL N			**15**	**100%**

Table 4 shows that not a single student got a score of 85-90 or (0%). In the assessment, the score is in the Very Good category. Just like the previous category, not a single student got a score of 76-80 or (0%) and was included in the very good category.

Then 3 students got the good category and got a score of 71-75 or (20%). And 1 person or (6%) students got a score of 66-70 and was included in the quite bad category. Apart from that, as many as 5 people or (33%) students got the sufficient category with a score of 60-65 and 40% or 6 students got the poor category with a score of less than 55. This research provides interference that the pre-test results in the control class were lower because no student got a score of more than 85 in the very good category, 76 in the very good category.

Tabel 5. The Score and Category Student of Post-Test in the Control Class

No	Category	Score	Frequency	percentage
1	Excellent	85-90	0	0%
2	Very Good	78-80	1	6%
3	Good	71-75	3	20%
4	Fairly good	66-70	0	0%
5	Fair	60-65	5	33%
6	Poor	50-55	6	40%
TOTAL N			**15**	**100%**

Meanwhile, the post-test score of the control class from 15 students as shown in the picture above shows that none or (0%) students got a score of 85-90 or (0%). In the assessment, the score is in the Very Good category. However, there was 1 student who got a score of 78-80 or (6%) and was included in the very good category. Then, 3 students got a score of 71-75 or (20%) and were in the good category. And not one student got a score of 66-70 (0%) in the quite bad category. And 5 students got the sufficient category with a score of 60 - 65 or (33%) and 6 students got the poor category with a score of less than 55 (40%). This means that the score on the post-test is slightly higher than the score on the pre-test. There were students in the control class who got higher scores on the post-test. It can be seen that 1 student got the very good category.

Tabel 6. Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Pre Test Ekspriement	15	20	80	55.00	18.127
Test Ekspriment	15	25	90	78.80	16.704
Pre Test Kontrol	15	55	80	62.33	9.037
Post Test Kontrol	15	55	90	68.53	9.877

Valid (listwise)	N	15				

As the table shows the descriptive statistics of the pre-test and post-test in the experimental and control classes. The difference in the average value of the experimental class and the control class can be seen. Based on this data, the average in the experimental class was 55.00 and in the control class it was 62.33. So from the two classes in the experimental pretest there was a difference in average. In the table to ensure there are significant differences, in statistical tests of student learning outcomes on posttest data, the mean data was obtained at 78.80 in the experimental class and 68.53 in the control class. So from the description of the data table it can be concluded that there is a significant difference between the results of the pre-test and post-test descriptive statistics.

Table 7. Tests of Normality

	Students' result	Kolmogorov-Smirnov[a]	
		Df	Sig.
Result	Pre-Test Ekspriment	15	.200*
	Post -Test Ekspriment	15	0.05
	Pre-Test control	15	0.07
	Post-Test Kontrol	15	104

Based on the table above, it is known that the significance value of each pre-test and post-test is greater than 0.05, the sig/p value in the experimental class pre-test is 0.200 and is smaller than 0.05 (0.200<0, 05), means the data is not normally distributed, the p-value in the experimental class post-test is 0.05, the same as 0.05 (0.05>0.05), meaning the data is normally distributed. The p-value in the control class pre-test was 0.07 and higher than 0.05 (0.07>0.05), the p-value in the control class post-test was 0.104 and higher than 0.05 (0.104> 0.05), meaning that the data is normally distributed in both the experimental and control classes. Therefore, it means that H0 is accepted and Ha is rejected. So it can be interpreted that each data is normally distributed.

Table 8. Test of Homogeneity of Variance Experimental Class

		Levene Statistic	f1	df2	Sig.
Pre-Test and Post-Test Experiment Class	Based on Mean	.414		28	.525

	Based on Median	.269		28	.608
	Based on Median and with adjusted df	.269		19.633	.610
	Based on trimmed mean	.289		28	.595

Based on the table above, it is known that the sig/p value of each data is greater than 0.05. This means that Ho is rejected and Ha is accepted. Thus, it can be interpreted that the data is homogeneous. So, with the results of these significance values, it can be concluded that the populations in the experimental class and control class have the same or homogeneous variance. The sig/ p value is based on the mean 0.525>0.05, based on the median 0.608>0.05, based on the median and with adjusted df 0.610>0.05, and based on the trimmed mean 0.595>0.05.

Table 9. Test of Homogeneity of Variance Control Class

		Levene Statistic	df1	df2	Sig.
Pre-Test and Post-Test Control Class	Based on Mean	.779	1	28	.385
	Based on Median	.546	1	28	.466
	Based on Median and with adjusted df	.546	1	19.600	.469
	Based on trimmed mean	.625	1	28	.436

Based on the table above, it is known that the sig/p value of each data is smaller than 0.05. This means Ha is accepted and HO is rejected. Thus, it can be interpreted that the data is not homogeneous. So, with the results of these significance values, it can be concluded that the populations in the experimental class and control class have different variants or are not homogeneous. The sig/p value is based on the mean 0.385<0.05, based on the median 0.466<0.05, based on the median and with adjusted df 0.469 <0.05, and based on the trimmed mean 0.382<0.05.

Table 10 Independent Samples Test in the Control Class in the Experimental Class

	Levene'sTes for Equality of Variences	**Standard 75**							
	F	Sig	T	Df	Sig (2-tailed)	Mean Differenc e	Std. Error Differen ce	95% Confidence Interval of the Difference	
								Lower	Upper
Equal Variences Assumed Equal Variences not Assumed	.762	.390	-3.740 -3.740	28 27.815	.001 .001	23.800 8.000	6.364 .364	-36.837 -36.841	-10.763 -10.759

The data variance is homogeneous according to the previous table, so the researcher chose the same variance which is assumed to be t-count = -3,740 and df = 28. The t-count is compared with t-table at both 5% and 1%. So t-table is .1.76 with (N=15-1=14) and t-count is -3.740. Based on this t-table it can be analyzed that t-count is greater than t-table, both at the 5% and 1% levels. The results of the independent sample in the experimental class were -3,740>.1.76. The tailed sig-2 value of this data is .001<0.05. Thus the researcher concluded that Ha was rejected and HO was accepted. This means that there is a significant influence on the effect of critical thinking to improve the reading skills of second grade students at SMA Negeri 1 Sanana.

Table 11 Independent Samples Test in the Control Class

	Levene's Tes for Equality of Varience s	Standard 75							
	F	Sig	T	Df	Sig (2-tailed)	Mean Differ ence	Std. Error Diffe rence	95% Confidence Interval of the Difference	
								Lower	Uppe r

ual riences sumed ual riences sumed	.061	.806	-1.568 .568	8 27.965	128	-5.269 5.269		-12.152 -12.152	.614

The data variance is homogeneous according to the previous table, so the researcher chose the same variance which is assumed to be t-count = -1.568 and df = 28. The t-count is compared with t-table at both 5% and 1%. So t-table is .1.76 with (N=15-1=14) and t-count is -1.568. Based on this t-table it can be analyzed that t-count is greater than t-table, both at the 5% and 1% levels. The results of the independent sample in the experimental class were -1.568>.1.76. The tailed sig-2 value of this data is .128.> 0.05. Thus the researcher concluded that HO was accepted and Ha was rejected. This means that there is a significant influence on the effect of critical thinking to improve the reading skills of second grade students at SMA Negeri 1 Sanana

DISCUSSION

The results of the descriptive analysis show that of the 15 students in the science department, only 3 students obtained higher pre-test scores. Meanwhile, other students got lower grades. This can be seen from the average pre-test score in the experimental class which was 55.00. Apart from that, the pre-test results in the social studies subject were also lower because only 3 students got the good category and the average score was 62.3. Meanwhile, this value increased significantly in the experimental class post-test. After the researchers provided treatment in the classroom, critical thinking experiments were conducted to improve reading skills for several meetings. Where, 8 students in this class got the highest score and the average score was 78.80

Meanwhile, in the control class, the increase in scores was not drastic but only increased slightly compared to the pretest scores. Only 4 students got the highest score out of 15 students who took the post-test and the average post-test score in the control class was 68.53. Apart from that, in the control class the researchers did not provide treatment. To prove this, researchers used a reading material test consisting of 20 multiple choice items as an instrument in the pre-test and post-test.

Then from the findings above, this research has a normal distribution because the p-value or signature of the data is greater than the value of 0.05. This is explained simply by the Kolmogorov-Smirnova normality test, (0.200>0.05) pre-test value for the experimental and control classes, (0.07>0.05) post-test value

for the experimental class, and (0.05> 0.05) post-test value in the control class. Researchers found that based on the mean, median, median and with adjusted df, as well as based on the trimmed mean. The data is homogeneous because the signature value is greater than the value 0.05. This can be seen from the values (0.525>0.05), (0.608>0.05), (0.610>0.05) and (0.595>0.05). From these results it can be concluded that the population has the same or homogeneous variance.

The researcher chose equality of variance assumed in the independent sample test with t-count=3.3740 and t-table=1.76 with N=14. Then the result is 3.3740>1.710 and sig-2 tailed 0.001<0.05. Thus the researcher concluded that Ha was accepted and Ho was rejected. This means that there is significant ineffectiveness of using the webtoon application on students' reading comprehension in the experimental class. On the other hand, in the control class t-count=1.568 and t-table=1.76 with N=14. Then the result is 1.568<1.710 and sig-2 tailed 128>0.05. Thus the researcher concludes that H0 is accepted and Ha is rejected. This means that there is no significant influence on students' reading comprehension.

> Data Validation 30 questions were tested. The number of invalid questions is 16 questions, where the rcount value is 0.063, with strong information <rtable 0.740.

Based on the explanation above, the researcher also used previous research to help the researcher in compiling this thesis. Therefore, from the results of the research that the researcher has researched, it can be concluded that the effects of critical thinking can help students improve their reading skills and reading comprehension in language texts. English and there is a significant influence and difference in the achievement of reading comprehension among first grade students at SMA Negeri 1 Sanana for the year 2024/2025

CONCLUSION

The significance effect means when researchers teach reading stories in English texts, so that students understand the meaning of the text and understand it. This can also be proven by the results of the pre-test score of 55.00 and post-test of 78.80, which means that the students' reading scores after being treated using reading texts were higher than the reading scores of students who did not use reading texts. Apart from that, the independent sample test results in the experimental class were 3.3740 > 1.76 and in the control class were 1.568 < 1.710. This means that the use of the Effect critical thinking improves students' reading skill in the experimental class. Evidence also confirms that the effectiveness of the effect of students' critical thinking on students' reading skill has a significant influence and difference in reading achievement between those who are taught and those who are not students in the experimental class. This can be seen from the results of independent sample tests in the experimental class, the tailed sig-2 value was 0.001<0.05 and in the control class the tailed sig-2 was -128>0.05.

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