

CHAPTER IV

RESEARCH FINDING AND DISCUSSION

4.1. Data

Quantitative data collection of critical thinking and writing descriptive text was carried out by giving test of The Seventh-Grade students in SMPS Al-Washliyah 26 Medan consisting of three different classes, namely VII 1, VII 2, and VII 3. Then, the sample was taken randomly of 10 students in every class. The purpose of this study was to find out the correlation between critical thinking and students' writing descriptive text.

4.1.1. Data Of Critical Thinking Test

The researcher gave critical thinking test of 30 students from three different classes by 44 multiple choice with three options "YES, NO, MAYBE". The purpose of this test was to know the students' thinking skill to think critically. The result of this test are shown in the following table :

Table 4.1.

Students' score of Critical Thinking Test

No	Students Initials	Score Of Critical Thinking Test	The Categories
1	A	50	Medium
2	ADTM	50	Medium
3	ASAP	43	Low
4	KAP	61	Medium
5	NA	54	Medium
6	RAN	61	Medium

7	RAF	61	Medium
8	RRL	59	Medium
9	RA	61	Medium
10	SR	84	High
11	AT	63	Medium
12	CY	52	Medium
13	FRA	47	Low
14	IAX	63	Medium
15	IMP	54	Medium
16	MAF	61	Medium
17	MCI	63	Medium
18	NH	56	Medium
19	RP	59	Medium
20	SAS	54	Medium
21	CEMS	61	Medium
22	FP	45	Low
23	H	75	High
24	MAA	59	Medium
25	NAP	65	Medium
26	NT	63	Medium
27	NH	50	Medium
28	RWS	61	Medium
29	RA	54	Medium

30	SK	56	Medium
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4.1.2. Data Of Writing Descriptive Test

The researcher gave writing descriptive test of 30 students from three different classes by describing people in descriptive text at least 50 words in 60 minutes. The purpose of this test was to know the students' ability to describing people in writing descriptive text. The result of this test are shown in the following table :

Table 4.2.

Students' Score of Writing Descriptive Test

No	Students Initials	Score Of Writing Descriptive Test	The Categories
1	A	75	Good
2	ADTM	42	Good
3	ASAP	50	Average
4	KAP	82	Very Good
5	NA	42	Average
6	RAN	62	Good
7	RAF	75	Good
8	RRL	40	Poor
9	RA	57	Average
10	SR	92	Very Good
11	AT	50	Average
12	CY	58	Good
13	IAX	82	Very Good
14	FRA	62	Good
15	IMP	32	Poor

16	MAF	42	Average
17	MCI	55	Average
18	NH	86	Very Good
19	RP	35	Poor
20	SAS	58	Average
21	CEMS	86	Very Good
22	FP	25	Poor
23	H	62	Good
24	MAA	37	Poor
25	NAP	50	Average
26	NT	51	Average
27	NH	82	Very Good
28	RWS	62	Good
29	RA	36	Poor
30	SK	42	Average

4.2. Realibility and Validity Test

4.2.1. Realibility Test

4.2.1.1. Realibility of CCTT

According to the developer of CCTT, the developers claimed that the reliability coefficient of the CCTT range from .67 to .90 are considered higher than 0,70 which meant this critical thinking test was reliable.

4.2.1.2. Realibility of Writing Descriptive Test

According to Widhiarso (2006:2) the use of the kappa coefficient is appropriate if one subject is judged by two rater. To find out the Cohen Kappa coefficient, the researcher was use Cohen Kappa agreement coeficientformula, the result shown the following table .

Categorized reliability kappa coefficient of one subject range from $<0,4$ to $>0,75$ (Widhiarso, 2006:15). Based on the result table below, the researcher was find out the measure agreement of Kappa is 0,540. It means the reliability coefficient kappa of writing descriptive test was reliable and the level categorize of this test was Fair (Kappa $0,4 - 0,60$).

Table 4.3.

Symmetric Measures					
		Value	Asymptotic Standard Error ^a	Approximate T ^b	Approximate Significance
Measure of Agreement	Kappa	.540	.094	12.205	<,001
N of Valid Cases		30			

a. Not assuming the null hypothesis.

b. Using the asymptotic standard error assuming the null hypothesis.

4.2.2 Validity Test

4.2.2.1. Validity of CCTT

For critical thinking test, it was a ready-made test. There was no need to conduct the validity test anymore. Moreover, the developers stated that the test was adequate to measure the students' critical thinking.

4.2.2.2. Validity of Writing Descriptive Test

In this research, the researcher was use formula of Pearson's Product Moment test as the validity of instruments, the result of the validity test shown following table .

Based on the table below, the researcher was found out the total values of five aspects in writing descriptive test. According to Heaton (1991: 135) there are five aspects evaluated in writing descriptive text; they are content, organization,

vocabulary, grammar and mechanic. Based on the result table, the Pearson Correlation of five aspect are higher than 0,80. It means the relationship level of the validity writing descriptive test was very high and valid (0,80-1,000).

Table 4.4.

		Correlations					
		C	O	V	G	M	TOTAL
C	Pearson Correlation	1	.716**	.755**	.739**	.761**	.946**
	Sig. (2-tailed)		<,001	<,001	<,001	<,001	<,001
	N	30	30	30	30	30	30
O	Pearson Correlation	.716**	1	.673**	.561**	.605**	.828**
	Sig. (2-tailed)	<,001		<,001	.001	<,001	<,001
	N	30	30	30	30	30	30
V	Pearson Correlation	.755**	.673**	1	.587**	.759**	.852**
	Sig. (2-tailed)	<,001	<,001		<,001	<,001	<,001
	N	30	30	30	30	30	30
G	Pearson Correlation	.739**	.561**	.587**	1	.715**	.819**
	Sig. (2-tailed)	<,001	.001	<,001		<,001	<,001
	N	30	30	30	30	30	30
M	Pearson Correlation	.761**	.605**	.759**	.715**	1	.862**
	Sig. (2-tailed)	<,001	<,001	<,001	<,001		<,001
	N	30	30	30	30	30	30
TOTAL	Pearson Correlation	.946**	.828**	.852**	.819**	.862**	1
	Sig. (2-tailed)	<,001	<,001	<,001	<,001	<,001	
	N	30	30	30	30	30	30

** . Correlation is significant at the 0.01 level (2-tailed).

4.3. The Fulfillment of Statistical Assumptions

4.3.1. Normality Test

Based on the data, it was found that the significance value of critical thinking was .023, and the significance value of writing descriptive text was .551. Since all of the significance values are higher than 0.05, it concluded that the data are normally distributed. Therefore, the data could be used for further analysis.

Table 4.5.

Tests of Normality						
	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	Df	Sig.	Statistic	df	Sig.
CT	.180	30	.014	.918	30	.023

a. Lilliefors Significance Correction

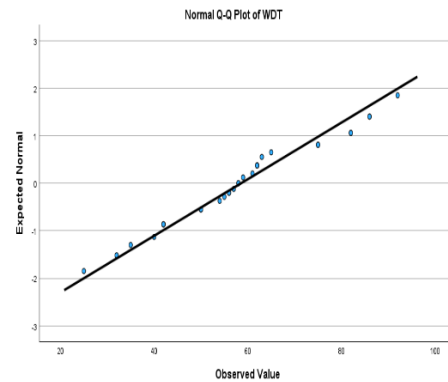
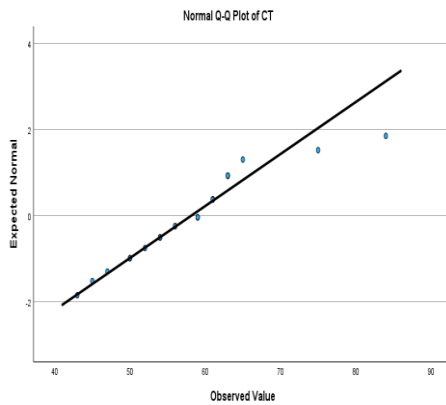
Table 4.6.

Tests of Normality						
	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	Df	Sig.	Statistic	df	Sig.
WDT	.130	30	.200*	.970	30	.551

*. This is a lower bound of the true significance.

a. Lilliefors Significance Correction

The normal Q-Q plot of each variable is illustrated in the following figures.



4.3.2. Linearity Test

Based on the ANOVA output table, value sig. Deviation from linearity of .225 > .05, it concluded that there was a linear relationship between the variables of Critical Thinking with Writing Descriptive Text.

Table 4.7.

ANOVA Table			Sum of Squares	df	Mean Square	F	Sig.
WDT * CT	Between Groups	(Combined)	5483.952	12	456.996	1.766	.138
		Linearity	1261.377	1	1261.377	4.876	.041
		Deviation from Linearity	4222.575	11	383.870	1.484	.225
	Within Groups		4398.048	17	258.709		
	Total		9882.000	29			

4.4. Hypothesis Testing

4.4.1. The Result of Hypothesis Testing

The first problem in this research which aim was to seek the significant correlation between students' critical thinking and their writing descriptive text, the researcher used Pearson Product Moment Correlation Coefficient to answer the first

question. Moreover, based on the correlational analysis which can be seen in the Table 4.8, it was showed that the correlational coefficient of the test was .420 in which based on Cohen, Manion, and Marrison (2015) states that correlation coefficients between .35 - .65 show fair relationship of the variables. Moreover, from the statistical analysis, it was also shown that the p-value was .021 which was less than 0.05 ($.021 < .05$). If p-value less than .05 it means there was a significant. So, based on the explanation above, the result of this research provided that Hypothesis alternatif (Ha) was accepted, then there was a significant correlation between critical thinking and students' writing descriptive text.

Table 4.8.

Correlations			
		CT	WDT
CT	Pearson Correlation	1	.420*
	Sig. (2-tailed)		.021
	N	30	30
WDT	Pearson Correlation	.420*	1
	Sig. (2-tailed)	.021	
	N	30	30

*. Correlation is significant at the 0.05 level (2-tailed).

The positive direction means the higher critical thinking skill level the students have, the higher their score of writing descriptive text. Therefore, since the data provided that there was a significant correlation between the variables, it means also there was a significant influence of critical thinking into students' writing descriptive text. But, to measure it, the further analysis was conducted in the term of finding the significant influence between the variables.

4.4.2. Regression Analysis

This section answered the second research problem by analysing the data of descriptive statistic for critical thinking skill and writing descriptive text. Regression analysis was used to find out if students' critical thinking skill influenced their writing descriptive text.

The result indicated that the students' critical thinking skill not significantly influenced writing descriptive text with t-value (2.451) was higher than t-table (2.048) with sig.value (.021) was lower than probability (.050). It means that

Hypothesis alternatif (Ha) was accepted, then there was a significant influence of critical thinking toward students' writing descriptive text.

Table 4.9.

ANOVA ^a						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1746.071	1	1746.071	6.009	.021 ^b
	Residual	8135.929	28	290.569		
	Total	9882.000	29			

a. Dependent Variable: WDT

b. Predictors: (Constant), CT

Coefficients ^a					
Model		Unstandardized Coefficients		Standardized Coefficients	Sig.
		B	Std. Error	Beta	
1	(Constant)	2.572	22.420		.909
	CT	.936	.382	.420	.021

a. Dependent Variable: WDT

In addition, to know the percentage of critical thinking skill influence on writing descriptive text, R-square was obtained. The result of the analysis shown in Table 4.10 below.

The data revealed that the R-square was .128. It means that the critical thinking skill gave significant value in the level of 12,8% toward students' writing descriptive text that means critical thinking was not significant influence in students' writing descriptive text.

Table 4.10
R-square Analysis

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.357 ^a	.128	.096	17.546

a. Predictors: (Constant), CT

4.5. Research Finding

4.5.1. The Result Score Of Students' Critical Thinking

After analyzing the data, the researcher found out the data description of critical thinking score. The data were presented minimum score, maximum score, mean score and standard deviation. The following table 4.11 of descriptive statistic of variables measured.

Critical thinking minimum score was 43 and the maximum score was 84. Critical thinking's mean score was 58,17 and the standard deviation was 8,292.

Table 4.11
Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
CT	30	43	84	58,17	8,292
Valid N (listwise)	30				

Meanwhile, the descriptive data of Table 4.12, there were score distribution of critical thinking that there 6,6% students who had high critical thinking, 83,4% had medium critical thinking, and 10% had low critical thinking.

Table 4.12
Score Distribution of Critical Thinking

Level of Critical Thinking	Raw Score	Number of Students	Percent (%)
High	71-100	2	6,6
Medium	50-70	25	83.4
Low	0-49	3	10
Total		30	100

4.5.2. The Result Score Of Students' Writing Descriptive Text

The data were presented minimum score, maximum score, mean score and standard deviation of the result of students' writing descriptive text. The following table 4.13 of descriptive statistic of variables measured.

The last, writing descriptive test minimum score was 25 and maximum score was 92. The mean score of writing descriptive test was 57 and the standard deviation was 18,460.

Table 4.13

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
WDT	30	25	92	57.00	18.460
Valid N (listwise)	30				

Meanwhile, the descriptive data of Table 4.14, it can be seen that there were score distribution of writing descriptive text that there 20% students who had very good writing descriptive text, 26% who had good writing descriptive text, 34% who had average writing descriptive text, 20% who had poor writing descriptive text, and 0% had very poor writing descriptive text.

Table 4.14
Score Distribution of Writing Descriptive Text

No	Score Range	Categories	Number of Students	Percent (%)
1	81-100	Very good	6	20
2	61-80	Good	8	26
3	41-60	Average	9	34

4	21-40	Poor	6	20
5	0-20	Very Poor	0	0
Total			30	100

4.5.3. The Correlation between Critical Thinking and Students' Writing

Descriptive Text

This section answered the first research problem was revealed that hypothesis alternatif (Ha) was accepted. Based on the analyzing data by used Pearson Product Moment Correlation Coefficient, the correlation between those variables was obtained that there was a significant correlation between critical thinking and students' writing descriptive text of the seventh-grade students in SMPS Al-Washliyah 26 Medan.

4.5.4. The Influence of Critical Thinking on Students' Writing Descriptive Text

This section answered the second research was revealed that hypothesis alternatif (Ha) was accepted. Based on the analyzing data by used Regression Analysis and R-square, the influence of critical thinking on students' writing descriptive text was obtained that there was a significant influence of students' critical thinking toward students' writing descriptive text of the seventh-grade students in SMPS Al-Washliyah 26 Medan.

4.6. Discussion

In order to strengthen the value of this research, the discussion is made based on the result of data analysis. According to the findings, there was a significant correlation between critical thinking and students' writing descriptive text. Also, there was a significant influence of critical thinking on students' writing descriptive text .

First, based on the result of the score distribution of critical thinking shown that the most students in Medium level (83,4%) and the score distribution of writing descriptive text shown that the most students in Average level (34%) and Good level (26%). It shown a balance presentation comparison between students' critical thinking and students' writing descriptive text. According to Such (2004) stated that writing is both a process of doing critical thinking and a product communicating the results of critical thinking. It means that critical thinking is one of aspects which is required and influenced on producing writing. So, based on the score distributions of critical thinking and writing descriptive text shown balance presentation, where students' writing descriptive text was 70% then students' critical thinking skill was 83,4%. The higher students' critical thinking score, the higher students' writing descriptive text achievement. And the lower students' critical thinking, the lower students' writing descriptive text achievement.

Second, based on the analyzing data by used Pearson Product Moment Correlation Coefficient, that there was a significant correlation between critical thinking and students' writing descriptive text of the seventh-grade students in SMPS Al-Washliyah 26 Medan. That's statement supported by the correlational coefficient analysis of the test was 0.420 in which based on Cohen, Manion, and Marrison (2015) states that correlation coefficients between 0.35-0.65 show fair relationship between variables. But, the statistical analysis shown that the p -value was 0.21 which was less than p -table 0.05. If the p -table was less than the p -value, it means there was correlation between two variables. So, it means that there was no correlation between

critical thinking and students' writing descriptive text of the seventh-grade students in SMPS Al-Wasliyah 26 Medan.

Then, after revealed about the correlation between the variables, the researcher had find out the influence of critical thinking and students' writing descriptive text of the seventh-grade students in SMPS Al-Washliyah 26 Medan. The researcher use regression analysis to found out the influence of the variables. According to Sugiyono (2017:260), regression analysis is to make decision whether the increase and descrease in the dependent variable can be done by increasing the independent variable or not. It means, the score of students' writing descriptive skill influenced by students' critical thinking skill. The higher students' critical thinking skill, it will be the higher students' writing descriptive text. Then, the lower students' critical thinking skill, it will be the lower students' writing descriptive text.

Based on the result of regression analysis of critical thinking and students' writing descriptive test, it shown that the t -value was 2.451 and the t -table was 2.048. In regression analysis statistical, if the t -value was higher than the t -table, it means there was significant influence of the variables. But, if the t -value was lower than the t -table, it means there was a significant influence of the variables. So, based on the result of this research that there was a significant of critical thinking and students' writing descriptive text of the seventh-grade students in SMPS Al-Washliyah 26 Medan.

Besides that, the researcher also had find out the level influence of critical thinking toward students' writing descriptive text of the seventh-grade students in

SMPS Al-Washliyah 26 Medan. The researcher used R-square analysis to make sure how far the critical thinking influence the students' writing descriptive text in percent. R-square values range from 0 to 1. An R-square value of 0 means that the model explains or predicts 0% of the relationship between the dependent and independent variables. A value of 1 indicates that the model predicts 100% of the relationship, and a value of 0.5 indicates that the model predicts 50% and so on. Based on the result of R-square analysis of this research, it shown that the adjusted R-square was 0.128 that means critical thinking influence toward the students' writing descriptive text was 12,8% . According to the standards for a good R-square can be much higher, such as 0.4 until 0.9. So, it means 0.128 was very high correlation and high influence of critical thinking toward students' writing descriptive text of the seventh-grade students in SMPS Al-Washliyah 26 Medan.

According to Sudaryono (2014:67) states that Correlational analysis is a statistical technique that is often used to find relationship between two variables. Correlation is defined as a relationship. Meanwhile, according to Amstrong (2012:689) states that Regression analysis is a statistical process for estimating the relationship between variables, namely in the form of modeling techniques and analyzing several variables on the basis of the form of the dependent variable and one or more independent variables. It means, based on those statements, correlational is related to regression analysis, where the regression analysis statistical was needed to estimating the correlational or relationship between two variables. If there is correlation between two variables, it must also there is influence between two

variables and so on. So, the researcher had been analyze the correlation between critical thinking and students writing descriptive text and also found out the influence of students' critical thinking toward students' writing descriptive text of the seventh-grade students in SMPS Al-Washliyah 26 Medan.

In short, the total contribution of students' critical thinking and students' writing descriptive text showed any significant correlation and influence. Finally this study was successful in identifying the correlation between critical thinking and students' writing descriptive text of the seventh-grade students in SMPS Al-Washliyah 26 Medan.