

CHAPTER IV

FINDING AND DISCUSSION

This chapter elaborates the research finding and discussion. The finding was obtained from the test which is done by the researcher. Further description and explanation about finding will be detailed discuss in in this chapter.

4.1. Research Finding

In the first chapter, researcher explained the objective of the study to find out the relationship between two variables exist in this study. For analyzing both variables, a statistical procedures need to be carried out in this study to determine whether there is relationship between two variables or not. Descriptive statistic including minimum and maximum scores means and standard deviation computed to summarize students' cognitive style and their reading comprehension ability. Normality test was conducted to examine the distribution of the data of each variables group. Pearson product moment was applied in this study to examine the correlation between cognitive style and reading comprehension of EFL students. The hypothesis test is also shown in this chapter.

4.1.1. Descriptive Statistic

Descriptive statistic from each variable will be shown in the tables below. From the tables displayed, descriptive statistic including minimum and maximum scores also standard deviation of the students' cognitive style and reading comprehension ability were examined.

No. of participants	No. of items	Min	Max	Mean	Std. Deviation
13	18	1	10	6.31	2.75

Table 4.1. Descriptive statistic of Group Embedded Figures Test

As it is shown in the table 4.1, the number participants who join the test are 13 students. In this test the students are asked to do three sections of the GEFT which containing increasingly complex geometric figure with the first practice section containing seven figures. Meanwhile the second and the third sections are each contains nine figures. Total items which are counted in this test are 18. The participants of the study are requested to locate and trace a simple form embedded within the complex figure. The participants have to trace as many of the simple forms as they can within a limited time given. From this test the score of group embedded figures test ranged from the minimum of 1 to maximum of 10 with mean of 6.31 and standard deviation of 2.75. It means that the lowest score acquired from this test is 1(min) and the highest is 10 (max). The average of the score of all participants is 6.31 (mean).

The categorization of the cognitive style of the EFL learner also can be drawn from the result of the score from Group Embedded Figures. The first category is Field Dependent and second is Field Independent. Based on Kheirzadeh (2011) the criterion of dichotomization of the participants into either FD or FI was 11. The score above 11 were included to FI students and below it were FD students. From the score resulted it indicates that all of the thirteen participants of this study were include to Field Dependent learner. It can be shown also in the Table 4.1. that the maximum score of GEFT is 10. It means that the maximum score is below the criterion of dichotomization of FD/FI.

For the TOEFL reading comprehension test, the score ranged from the minimum of 11 to the maximum of 30 with mean of 18 and standard deviation of 5.986 as displayed in the Table 4.2

No. of participants	No. of items	Min	Max	Mean	Std. Deviation
13	50	11	30	18	5.986

Table 4. 2 Descriptive statistic of TOEFL Reading Comprehension Test

To test reading comprehension of the EFL students', researcher used TOEFL reading comprehension test which contain 50 items. Thirteen students who participated as the subject of this test ask to answer questions from the passage to examine their reading comprehension. The result of this test shows that the lowest score acquired is 11 (min) and the highest is 30 (max). The average score acquired from the test is 18.

4.1.2. Normality Test

At this point normality test was conducted to examine the distribution of the data of each variable group. The computation of normality test will be displayed in the tables below.

	Kolmogorov-Smirnov(a)			Shapiro-Wilk		
	Statistic	Df	Sig.	Statistic	Df	Sig.
GEFT	.225	13	.072	.902	13	.142

Table 4.3 Normality test of GEFT

	Kolmogorov-Smirnov(a)			Shapiro-Wilk		
	Statistic	Df	Sig.	Statistic	Df	Sig.
TOEFL	.203	13	.147	.905	13	.155

Table 4.4 Normality test of TOEFL reading comprehension test

Table 4.3 and 4.4 shows the normality test of both variables. The normality distribution of each variable can be seen in the significant value of Kolmogorov-Smirnov test. The significant value of Group Embedded Figured test is 0.72 as shown in the Table 4.3 and from the Table 4.3, it can be seen that the significant value of the reading comprehension test is 0.147

This objective study is conducted to find the correlation between cognitive style and reading comprehension, whereas to find the correlation, we should determine the coefficient correlation. The normality test used to determine whether the calculation of the correlation should be done in parametric or non-parametric test as the statistical procedure before determine the coefficient correlation should be used in this study. When the data showed that they come from normal distribution, it should use a parametric test but if the data did not come from normal distribution it should use a non-parametric test. Briefly, the normality test is needed to decide what kind of test need to be applied in this study to find the coefficient correlation.

To know the data of both variables belong to normal distribution or not, first it need to state the null hypothesis (H_0) first. Null hypothesis (H_0) of this normality test is the data comes from population which has normal distribution. While for the working hypothesis (H_1) is the data does not come from population which has normal distribution. The criterion is H_0 can be rejected when the P-value (sig) is lower than α in the 5% level or 0.05.

The significant value of cognitive style showed in the result of Group Embedded Figured test, which shows that the P-value is 0.72 as shown in the table 4.3 which means the score of group embedded figures test come from the

population which has normal distribution, because the significant value higher from alpha ($\text{sig} = 0.072 > \alpha = 0.05$). Meanwhile, in the table 4.4 displayed the result of normality test of TOEFL reading comprehension test. From the table, it can be seen that the significant value of the reading comprehension test is 0.147 which means that the score of the test comes from population which has normal distribution because the significant value higher from alpha ($\text{sig} = 0.147 > \alpha = 0.05$).

The two variables exist in this study show that the score comes from population which has normal distribution. By considering the result of normality test, this study needs to use parametric test to find the correlation between those variables. In this circumstance, the test is Pearson Product Moment.

4.1.3. Pearson Product Moment Coefficient

As the result of the normality test, it was determined to use parametric test to find the correlation, in this term is Pearson Product Moment. Pearson Product Moment is used when the data comes from population which has normal distribution. Moreover, the variables exist in this study is in the form of ratio data so that is why Pearson Product Moment should be applied in this study. In this test it will be examined whether there is correlation between two variables or not.

There are two variables which will examined in this study, the first is students' cognitive style and second is students' reading comprehension ability. Pearson product moment will be applied to determine the correlation of both variables exist in this study. Table 4.5 presents the result of Pearson product

moment correlation between cognitive style and EFL reading comprehension ability.

In this study, a correlational procedure is applied as the statistical technique to determine the relationship between cognitive style and reading comprehension ability. The degree of relationship between variables will be measured by coefficient correlation both variables. Coefficient correlation (r) is the notation which shows the strength-weakness of relationship between two variables. Muijs (2004: 145) defines the interpretation of r value $< 0, +/-1$ as weak, $< 0, +/-3$ as modest, $< 0, +/-5$ as moderate, $< 0, +/-8$ as strong, $\geq +/-0,8$ as very strong.

		GEFT	TOEFL
GEFT	Pearson Correlation	1	.456
	Sig. (2-tailed)		.118
	N	13	13
TOEFL	Pearson Correlation	.456	1
	Sig. (2-tailed)	.118	
	N	13	13

Table 4.5 Correlation between cognitive style and EFL reading comprehension ability

The coefficient correlation of the cognitive style and reading comprehension is 0.456 as it is displayed in the table 4.1.3.1. It means that the degree of relationship of Pearson product moment between cognitive style and EFL reading comprehension belongs to moderate relationship. A positive correlation defined in the result of Pearson product moment correlation as there is no minus preceding the coefficient. In other word, the students' who get high

score in the cognitive style test (GEFT) will tend to get high score in the reading comprehension ability.

4.1.4. Hypothesis Testing

The coefficient of the correlation is used to determine the degree of relationship of variables whether they are belongs to strong or weak relationship. Although the output of the table of Pearson product moment showed the moderate correlation based on the coefficient of correlation, the hypothesis test is still needed to examine the significance correlation of the variables exist in the current study.

The problem statement of this study is “Is there any significant relationship between cognitive style and EFL learners’ reading comprehension?” by this statement we can stated the null hypothesis (H_0) is there is no significant correlation between EFL cognitive style and reading comprehension ability ($\rho \neq 0$). While, the working hypothesis (H_1) in this study is there is significant correlation between EFL cognitive style and reading comprehension ability. To test the hypothesis, the criterion is H_0 can be rejected if the P-value (sig.) is lower than α in the 5% level of two-tailed (0.05). While as the presented in the Table 4.5 is the P-value (sig. two-tailed) between cognitive style and reading comprehension ability is 0.118. So, it can be seen that the P-value (sig. two-tailed) of Pearson correlation is higher than α (0.05). It means that the null hypothesis cannot be rejected, or the null hypothesis is accepted. The statistical interpretation of this result is null hypothesis (H_0) cannot be rejected at 5% level (2-tailed) because the significant value is 0.118 higher than 0.05. Then the research conclusion of this

result can be said that there is enough evidence to state that there is no significant correlation between EFL students' cognitive style and reading comprehension at 5% level.

Regarding to the result of the coefficient correlation and hypothesis test, the correlation coefficient ($r = 0.456$) was found a moderate relationship between cognitive style and reading comprehension ability. Then the result of hypothesis test showed that there is no significant correlation between cognitive style and reading comprehension ability. It means that cognitive style can determine EFL learners' reading comprehension ability, but it is not a strong relationship and not significant correlated.

4.2. Discussion

The first finding of this study was in the descriptive statistic. Descriptive statistic showed that the maximum score of Group Embedded Figures Test was 10, which indicates all the participants in this study belong to field dependent learners. While, the average score of TOEFL reading comprehension was 18 of 50. From statistical analysis, Pearson Product Moment coefficient (r) of the cognitive style and reading comprehension was 0.456 and Sig. (2-tailed) was 0.118. It means that there is not significant moderate positive correlation between cognitive style and reading comprehension ability.

This study focused on the students' cognitive style and reading comprehension ability and the purpose of this study is to determine the correlation between them. The finding of the GEFT test indicates that all of the students' cognitive style belongs to Field Dependent because the maximum score was 10.

While from the result of TOEFL reading comprehension test the average of the score is 18 of 50 which indicating a low ability of the students in comprehend reading passage. It indicates that field dependent learners have a low ability to solve problem in the TOEFL reading comprehension ability. As the researcher observes the characteristic of the learners while taking both the tests, they are tending to be a warm personality but they have difficulty in breaking information from the passages in the test. That is why the score of their reading comprehension is low.

The previous research (Khodaday, 2012) examines similar study related to field-dependence/ independence cognitive style and performance on the IELTS listening comprehension. The result showed that field-independent participants outperformed field-dependent participants in IELTS listening comprehension and all of listening tasks. The finding also indicates that field-independency correlated more positively with test-takers successes in IELTS listening comprehension compared with field-dependent ones. Khodaday (2012) finding is the same with this current study. This study found that the performance of the all participants which included to field dependent learners is relatively low. The average score of the TOEFL reading comprehension test was 18 of 50 which indicates a low score.

While from the statistical analysis it showed that there is a moderate positive correlation between cognitive style and reading comprehension ability. The assumption of the researcher in this study is that the cognitive style will influence to the EFL learner' reading comprehension as the result of previous study. Nevertheless, the result of the statistical analysis shows that there is no significant correlation between cognitive style and reading comprehension ability.

It means that when the cognitive style score is high, it does not mean the score of the reading comprehension of the students will be high also or when the cognitive style score is low, it does not mean the score of reading comprehension will be low too.

Comparing the result of the current study with the previous study which conducted in similar context to find the correlation between cognitive style and reading comprehension is needed to emphasize this current study. Blanton (2004) conducted similar study which examined the influence of students' cognitive style on a standardized reading test. The finding of this study indicated that cognitive style had impact on students' performance on standardized test of reading comprehension. While the result of this study indicated the different finding which showed that cognitive style is not significantly correlated with the reading comprehension ability. The different participants may cause the difference of the finding. Considering the background of the participants in this study is EFL students, while in Blanton (2004) the participants were ESL students. It means that EFL students and ESL students have different characteristic in their learning English. Moreover the all participants of this study are belongs to Field Dependence cognitive style which mean the variance of sample does not exist in this study. As stated by Salmani-Nodoushan (2007), the Field Dependent and Field Independent students perform different result of the reading task. Another variable which does not mention in this study may also influence to the result of this study.

Yousefi (2011) who investigated the relationship between field dependence/ field independence cognitive style toward EFL learners' listening

comprehension ability. The result of this study showed that the correlation between TOEFL listening comprehension and GEFT was significant ($r = 0.70$). The higher scores on the GEFT led to an increase in the FD learner' TOEFL. While the finding of this study show the relationship between cognitive style and reading comprehension from the coefficient correlation was moderate ($r = 0.456$) it means that the higher scores on the GEFT not always led to an increase in the FD learner' TOEFL reading comprehension test.

By those explanations, it shows that the theory which came up from the research finding by the previous researcher can be accepted and applied in this study because the result was the same even the correlation which appeal in this study was a moderate relationship and was not significantly correlated. The same finding was found in the same context of the relationship between cognitive style and English language achievement. In this case is the relationship between cognitive style of field dependence and field independence in reading comprehension in this current study and in the listening comprehension in Khodaday (2012) in EFL learner context.

The previous research also showed that field dependence learners performed better comparing with field dependence ones (Khodaday, 2012). This finding of the study can contribute to accomplish and strengthen the finding of previous studies which found that field dependent learner are less dominant than field independent learner in the language achievement. This study can contribute also for the educators as reference to find the method in the language teaching and learning to improve the language achievement of field dependent learner, because

as resulted in this study the field dependent learners have low ability in the language achievement.