

Chapter Four

Findings and Discussion

This chapter describes the findings of three research questions. The first research question is “How is students' most dominant multiple intelligence at EED of UMY batch 2014?”. The second research question is “How is EED of UMY batch 2014 students' TOEFL-like reading comprehension score?”. The third research question is “What is the correlation between students' most dominant multiple intelligence of EED of UMY batch 2014 and their reading comprehension in TOEFL-like?”. Then, the discussion of findings is also explained in this chapter.

Findings

In this part, the researcher focused on presenting the findings of three research questions. The findings are about EED of UMY students' most dominant multiple intelligence, EED of UMY students' reading comprehension in TOEFL-like, and also correlation between students' most dominant multiple intelligence and their reading comprehension in TOEFL-like at EED of UMY batch 2014. Then, the findings are revealed in the following discussion.

Finding 1. The Students' Most Dominant Multiple Intelligence at EED of UMY batch 2014

The first research question of this research is about students' most dominant multiple intelligence of EED of UMY batch 2014. The researcher has investigated students' most dominant multiple intelligence before conducting this research. Then, the researcher found existential intelligence as students' most

dominant multiple intelligence. Existential intelligence as one of multiple intelligence types that people with existential intelligence are interested in philosophy and have high curiosity on some unusual questions like why they exist in this world, what is meaning of life (Hajhashemi, Akef & Anderson, 2012; Heidari & Panahandeh, 2013; Maftoon & Sarem, 2012). Additionally, questionnaire to measure students' existential intelligence was distributed to 37 students who have this intelligence type. The researcher known their data when investigating students' multiple intelligence at EED of UMY batch 2014. The researcher categorized students' most dominant multiple intelligence into three levels using Supranto's (2000) formula as presented in the chapter three (see table 6).

The researcher analyzed the data using descriptive statistic in SPSS program version 20 to know students' most dominant multiple intelligence of EED of UMY batch 2014. The result (see table 9) showed that there was one of thirty-seven students (2.7%) who has existential intelligence score between 1-2. There were seven students (18.9%) who have existential intelligence score between 2.1-3.1. Then, there were twenty-nine students (78.4%) who have existential intelligence score between 3.2-4.2. The result of students' multiple intelligence was presented below:

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid 1-2	1	2.7	2.7	2.7
2.1-3.1	7	18.9	18.9	62.1
3.2-4.2	29	78.4	78.4	100.0
Total	37	100.0	100.0	

The mean of students' existential intelligence was 3.35. Based on the category of students' most dominant multiple intelligence (see table 6), this score belongs to "high" category (3.2-4.2). It can be concluded that most of EED of UMY students have high existential intelligence. The histogram below showed students' most dominant multiple intelligence of EED of UMY batch 2014.

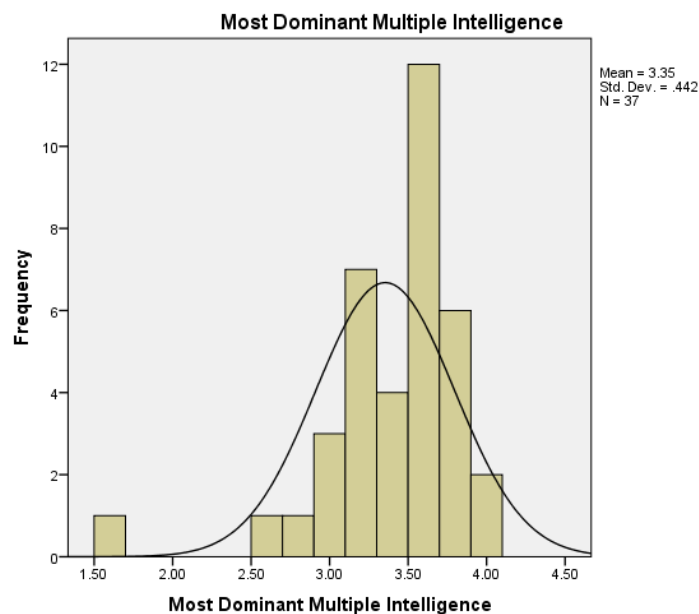


Figure 2. Histogram of students' most dominant multiple intelligence

Furthermore, the researcher described the results of questionnaire items one by one. The researcher provided four Likert scales on the questionnaire, such as *Sangat Tidak Setuju* (STS) or strongly disagree, *Tidak Setuju* (TS) or disagree,

Setuju (S) or agree and *Sangat Setuju* (SS) or strongly agree. Ten items are described below:

	Frequency	Percent	Valid Percent	Cumulative Percent
Strongly Disagree	1	2.7	2.7	2.7
Disagree	2	5.4	5.4	8.1
Agree	11	29.7	29.7	37.8
Strongly Agree	23	62.2	62.2	100.0
Total	37	100.0	100.0	

Statement 1. The result of statement one showed that there was one student (2.7%) who answered strongly disagree and two students (5.4%) who answered disagree. Then, there were eleven students (29.7%) who answered agree and twenty-three students (62.2%) answered strongly agree. The mean score was 3.51 (see Appendix F), and then this score belongs to “high” category. It means that most of EED of UMY batch 2014 students considered that they have to know their role in life.

	Frequency	Percent	Valid Percent	Cumulative Percent
Disagree	2	5.4	5.4	5.4
Agree	13	35.1	35.1	40.5
Strongly Agree	22	59.5	59.5	100.0
Total	37	100.0	100.0	

Statement 2. The result of statement two showed that there were two students (5.4%) who answered disagree. Then, thirty-three students (35.1) answered agree and twenty-two students (59.5%) answered strongly agree. The mean of questionnaire item was 3.54 (see Appendix F), and this score was in the “high” category. It means that students of EED of UMY batch 2014 like to discuss about life.

Table 12 Statement 3 <i>I believe that religion is important (Saya menganggap bahwa agama itu penting).</i>				
	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Strongly Disagree	1	2.7	2.7	2.7
Valid Agree	3	8.1	8.1	10.8
Valid Strongly Agree	33	89.2	89.2	100.0
Valid Total	37	100.0	100.0	

Statement 3. The result of descriptive statistic for statement three presented that there was one of thirty-seven students (2.7) who chose strongly disagree. There were three students (8.1%) who chose agree. Then, most of them or thirty-three students (89.2%) chose strongly agree. The mean was 3.84 (see Appendix F), and then it belongs to “high” category. It means that EED of UMY batch 2014 students believed that religion is important for them.

Table 13 Statement 4 <i>I enjoy viewing art masterpieces (Saya senang mengamati karya seni yang luar biasa).</i>				
	Frequency	Percent	Valid Percent	Cumulative Percent
Strongly Disagree	1	2.7	2.7	2.7
Disagree	2	5.4	5.4	8.1
Valid Agree	13	35.1	35.1	43.2
Strongly Agree	21	56.8	56.8	100.0
Total	37	100.0	100.0	

Statement 4. In this statement, there was one student (2.7%) who responded strongly disagree. There were two students (5.4%) who responded disagree. Then, there were thirteen students (35.1%) who responded agree and twenty-one (56.8%) students who responded strongly agree. The mean of questionnaire item was 3.46 (see Appendix F), and this score was in the “high” category. It means that EED of UMY batch 2014 students enjoyed viewing art masterpieces.

Table 14 Statement 5 <i>Relaxation exercise and mediation are useful for me (Latihan relaksasi dan meditasi itu bermanfaat bagi saya).</i>				
	Frequency	Percent	Valid Percent	Cumulative Percent
Strongly Disagree	1	2.7	2.7	2.7
Disagree	6	16.2	16.2	18.9
Valid Agree	21	56.8	56.8	75.7
Strongly Agree	9	24.3	24.3	100.0
Total	37	100.0	100.0	

Statement 5. In this statement, only one of thirty-seven students (2.7%) responded strongly disagree. There were six students (16.2%) who responded disagree. Then, twenty-one students (56.8%) responded agree and nine students (24.3%) responded strongly disagree. The mean was 3.03 (see Appendix F), and then it belongs to “moderate” category.

It means that students of EED of UMY batch 2014 considered that relaxation exercise and mediation are useful for them.

	Frequency	Percent	Valid Percent	Cumulative Percent
Disagree	5	13.5	13.5	13.5
Agree	7	18.9	18.9	32.4
Valid Strongly Agree	25	67.6	67.6	100.0
Total	37	100.0	100.0	

Statement 6. The descriptive statistic result for statement six showed that there were five students (13.5%) who answered disagree and seven students (18.9%) who answered agree. Then, twenty-five students or most of them (67.6%) answered strongly agree. The mean score was 3.54 (see Appendix F), and this score belongs to “high” category. It means that EED of UMY batch 2014 students like to visit tourism places in nature.

Table 16				
<i>Statement 7</i>				
<i>I like reading books from both ancient and modern philosophers (Saya suka membaca bacaan karya filsuf kuno dan modern).</i>				
	Frequency	Percent	Valid Percent	Cumulative Percent
Disagree	18	48.6	48.6	48.6
Agree	12	32.4	32.4	81.1
Valid Strongly Agree	7	18.9	18.9	100.0
Total	37	100.0	100.0	

Statement 7. In the statement seven, the result showed that there were eighteen students (48.6%) who answered disagree. Then, twelve students (32.4%) answered agree and seven students (18.9%) answered strongly agree. The mean of questionnaire item was 2.70 (see Appendix F), and it belongs to “moderate” category. It means that students of EED of UMY batch 2014 felt ambivalent about reading ancient and modern philosophers.

Table 17				
<i>Statement 8</i>				
<i>Learning a new thing will be easier for me if I understand the benefits of it (Mempelajari sesuatu yang baru akan lebih mudah jika saya mengetahui manfaatnya).</i>				
	Frequency	Percent	Valid Percent	Cumulative Percent
Disagree	4	10.8	10.8	10.8
Agree	14	37.8	37.8	48.6
Valid Strongly Agree	19	51.4	51.4	100.0
Total	37	100.0	100.0	

Statement 8. The result of descriptive statistic for statement eight showed that there were four students (10.8%) who answered disagree. Fourteen students

(37.8%) answered agree and nineteen students (51.4%) answered strongly agree.

The mean was 3.41 (see Appendix F), and this score was in the “high” category. It means that EED of UMY batch 2014 students agreed that learning a new thing will be easier if they understand the benefits of it.

	Frequency	Percent	Valid Percent	Cumulative Percent
Strongly Disagree	2	5.4	5.4	5.4
Disagree	3	8.1	8.1	13.5
Valid Agree	13	35.1	35.1	48.6
Strongly Agree	19	51.4	51.4	100.0
Total	37	100.0	100.0	

Statement 9. In the statement nine, the result showed that there were two students (5.4%) who answered strongly disagree. There were three students (8.1%) who answered disagree. Then, there were thirteen students (35.1%) who answered agree and nineteen students (51.4%) who answered strongly agree. The mean score was 3.32 (see Appendix F), and then this score was in the “high” category. It means that students of EED of UMY batch 2014 agreed that they are curious about other life in this universe.

Table 19				
<i>Statement 10</i>				
<i>Learning history and ancient culture help me to form my perspectives about everything in life (Mempelajari sejarah dan budaya kuno membantu membentuk sudut pandang saya tentang segala hal).</i>				
	Frequency	Percent	Valid Percent	Cumulative Percent
Disagree	7	18.9	18.9	18.9
Agree	16	43.2	43.2	62.2
Valid Strongly Agree	14	37.8	37.8	100.0
Total	37	100.0	100.0	

Statement 10. The descriptive statistic result of statement ten showed that there were seven students (18.9%) who responded disagree. Then, there were sixteen students (37.8%) who responded agree and fourteen students (37.8%) who responded strongly agree. The mean of questionnaire item was 3.19 (see Appendix F), and this score belongs to “moderate” category. It means that EED of UMY batch 2014 students considered that learning history and ancient culture help them to form their perspectives about everything.

Finding 2. The EED of UMY batch 2014 Students’ Reading Comprehension Score in TOEFL-Like

The second research question of this research is “How is EED of UMY batch 2014 students' TOEFL-like reading comprehension score?”. The data were collected from EED of UMY batch 2014 students’ score document of pre-test reading TOEFL-like score. The researcher took the data from lecturer who taught International Language Testing (ILT) course. The data presented that the minimum score was 290 and the maximum score was 610. Based on Supranto’s (2000) formula that was written in the chapter three (see table 7), the researcher

categorized students' reading TOEFL-like score into three categories with interval 106.67. There were poor, fair and good categories.

The Category of Students' Reading TOEFL-Like Score	Frequency	Percent
290-396.67 : Poor	4	10.8
396.68-503.35 : Fair	30	81.0
503.36-610.03 : Good	3	8.2
Total	37	100.0

Based on the categories of students' reading TOEFL-like score above, the result showed that there were four students (10.8%) who have poor reading comprehension in TOEFL-like. There were thirty students (81%) who have fair reading comprehension in TOEFL-like. Then, there were three students (8.2%) who have good reading comprehension in TOEFL-like.

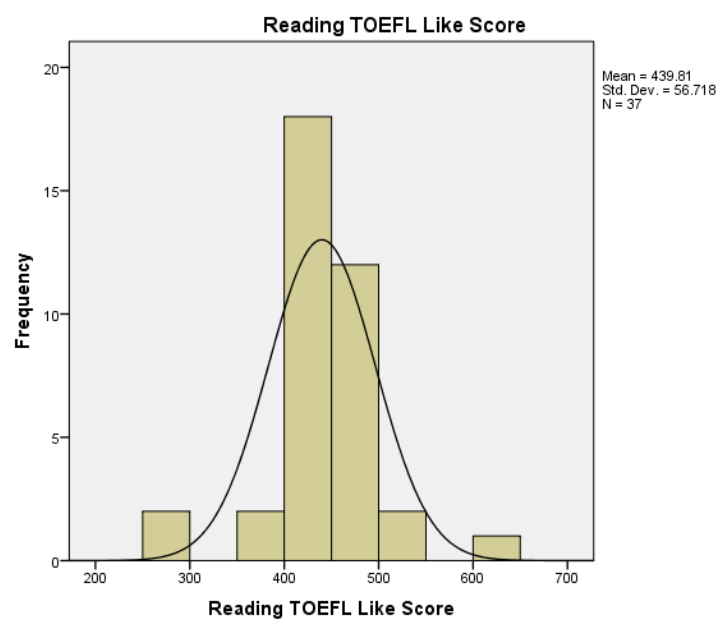


Figure 3. Histogram of reading TOEFL score

The result showed that the value of mean was 439.81. Afterward, students' reading TOEFL score was on fair level based on the category of students' reading TOEFL score. Then, the histogram described that most of EED of UMY batch 2014 students have fair reading comprehension in TOEFL-like.

Finding 3. The Correlation between Students' Most Dominant Multiple Intelligence and Their Reading Comprehension in TOEFL-Like at EED of UMY batch 2014

The third research question of this research is about the possibility of correlation between students' most dominant multiple intelligence and their reading comprehension in TOEFL-like at EED of UMY batch 2014. However, before analyzing the correlation between them, the researcher tested normality and linearity of data. The researcher analyzed the tests using SPSS program version 20.

Normality test. The researcher did normality test using Kolmogorov-Smirnov analysis in order to find out whether the data distribution was normal or not. The criteria of normality test is when the significance value is higher than 0.05 ($\alpha > 0.05$). Meanwhile, the data does not have normal distribution when the significance value is lower than 0.05 ($\alpha < 0.05$). The result of normality test showed on the table below:

Variable	Kolmogorov -Smirnov Z	Sig.	Information
Students' Most Dominant Multiple Intelligence	1.034	0.236	Normal
Reading TOEFL-Like Score	0.896	0.399	Normal

The result showed that significance value of students' most dominant multiple intelligence variable (X) was 0.236. It can be concluded that the X variable distribution was normal because $0.236 > 0.05$ ($\alpha > 0.05$). Then, the significance value of reading comprehension in TOEFL-like score variable (Y) was 0.399. It means that the Y variable distribution was normal since the significance value was larger than 0.05 ($\alpha > 0.05$).

Additionally, normality test also can be analyzed using probability plot through SPSS program version 20. The data distribution can be said normal if line of real data was close to diagonal line. Based on the graphic of normally probability plot (figure 4), the data line followed diagonal line. It can be concluded that the data was normally distributed. The probability plot was presented on graphic below:

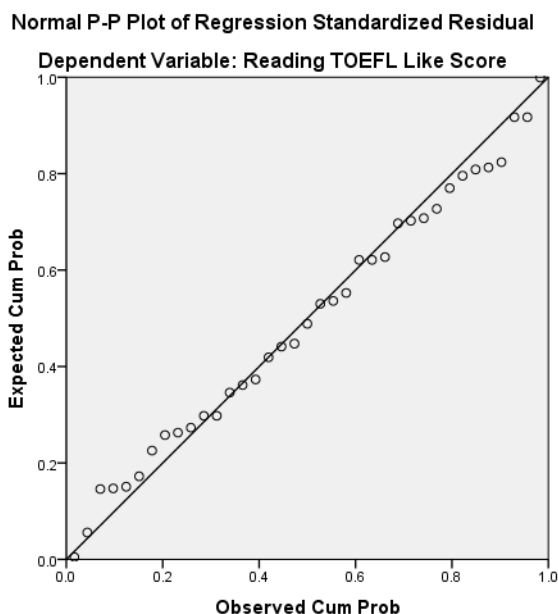


Figure 4. Graphic of normal data distribution

Linearity test. The linearity test purposed to know whether the variables are have a significant linear or not. There were two results that have to be analyzed. The first is about F-Linearity value that showed how far the dependent variable was predicted close in line. The variables are linear if significance value of linearity is lower than 0.05 ($\rho < 0.05$). The second is about F-Deviation from Linearity value that showed how far the deviation of variables from linearity. Then, the variables are linear if the significance value of deviation from linearity are not significant or higher than 0.05 ($\rho > 0.05$). The result of linearity test was presented on the table 22 below:

Table 22 <i>Result of Linearity Test</i>			
	F	Sig.	Information
Linearity	7.180	0.013	Linear
Deviation from Linearity	0.860	0.595	Linear

Based on the finding of linearity test above, the linearity significance value was 0.013 with F-Linearity value was 7.180. The significance value was lower than 0.05 ($F=7.180$; $\rho < 0.05$). It means that the result was significant and then the variables were linear to be applied on its relation model. Then, the significance value of deviation from linearity was 0.595 with F-Deviation of Linearity value was 0.860. The significance value was higher than 0.05 ($F=0.860$; $\rho > 0.05$). It means that the deviation from linearity was not significant. Hence, it can be concluded that the relation between two variables fulfill linear assumption, and then the variables of this research were linear.

Hypothesis test. This test was to answer the third research question about correlation between EED of UMY students' most dominant multiple intelligence and their reading comprehension in TOEFL-like. This test was to prove the hypothesis of this research that there is a correlation between students' multiple intelligence and their reading comprehension in TOEFL-like. Then, the correlation between two variables was identified using Pearson Product Moment Correlation (r). The correlation result was presented on the table 23 as follows:

Independent Variable (X)	Dependent Variable (Y)	N	Pearson Correlation	Sig.
Students' Most Dominant Multiple Intelligence	Reading TOEFL-Like Score	37	0.421	0.009

The result showed that Pearson correlation value (r -value) was 0.421 and significance value was 0.009 with sample size (N) was 37. The hypothesis testing

was analyzed by comparing significance value (ρ -value). According to Cohen, Manion and Morrison (2011), “coefficient statistics are statistically significantly correlated at the $\rho < 0.05$ levels” (p. 345). The finding above showed that significant value (ρ -value) was 0.009 which was lower than 0.05 ($0.009 < 0.05$). It means that there is a positive and significant correlation between students’ most dominant multiple intelligence and their reading comprehension in TOEFL-like, and then alternative hypothesis (H_1) was accepted.

Moreover, the correlation proportion can be seen from Pearson correlation value (r -value). The table showed that r value was 0.421. Based on Sugiono’s (2011) criteria of correlation level (see table 8), 0.421 was on moderate level (0.40-0.599). It can be concluded that there is a correlation between students’ most dominant multiple intelligence and their reading comprehension in TOEFL-like in moderate correlation level.

Discussion

The Students’ Most Dominant Multiple Intelligence of EED of UMY batch 2014. The first research question of this research is about how students’ most dominant multiple intelligence at EED of UMY batch 2014 is. As the information before, EED of UMY batch 2014 students’ most dominant multiple intelligence is existential intelligence. Then, the researcher found that there was only one of thirty-seven students (2.7%) who was in the low level of existential intelligence. Seven students or 18.9% were in the moderate level and twenty-nine students or 78.4% were in the high level. It means that the average of students have high level of existential intelligence. It also can be seen from the mean of

students' most dominant multiple intelligence. The mean was 3.35, and this score belongs to "high" category. It can be concluded that EED of UMY batch 2014 students have various level of existential intelligence from low until high level of existential intelligence as their most dominant multiple intelligence.

Moreover, based on the table of descriptive statistic findings of students' most dominant multiple intelligence, some questionnaire items means were on the "high" category. The mean score of questionnaire item about seeing a role in life is an important thing was 3.51 and questionnaire item about enjoying to discuss about life was 3.54, and these scores were in "high" category. It means that EED of UMY batch 2014 students considered that they have to know their role in life and they enjoyed discussing about life. These statements are same as the characteristics of existential person. People with existential intelligence are interested on philosophy and have high curiosity on some unusual questions like why they exist in this world, what their role is in this world, what is meaning of life (Hajhashemi, Akef & Anderson, 2012; Heidari & Panahandeh, 2013; Maftoon & Sarem, 2012). Rad and Rahanama (2015) also have same idea that existential intelligence is the meaning of life on humans' view.

Besides, the mean of questionnaire item about an importance of religion to students' was 3.84, and this score was in "high" category. It means that students of EED of UMY batch 2014 believed that religion is an important thing. Hence, they might feel curious about religion. Then, this statement is in line with the meaning of existential intelligence that it is an ability to challenge the deep question about role of human existence, such as human life, death, role, religion,

and love (Hajhashemi, Akef & Anderson, 2012; Heidari & Panahandeh, 2013; Maftoon & Sarem, 2012).

Furthermore, there were three questionnaire items which were also in the “high” category. They were mean items about enjoyed viewing art masterpieces was 3.46, enjoyed visiting beautiful tourism places in nature was 3.54, and curiosity about other life in this universe was 3.32. It means that EED of UMY batch 2014 students paid attention on nature and universe of existence. This is in line with Logsdon’s (2016) statement that existential person think critically on nature of existence and reality of this universe. Thus, EED of UMY batch 2014 students’ high level of their most dominant intelligence was because six questionnaire items were appropriate with themselves.

EED of UMY students’ reading comprehension in TOEFL-like. The second research question of this research is about how EED of UMY students’ batch 2014 reading comprehension in TOEFL-like is. The result showed that the mean score of students’ reading TOEFL score was 439.81. Based on the categories in TOEFL reading score, score 396.68-503.35 are on the “fair” category of students’ reading TOEFL score. Hence, it can be concluded that students of EED of UMY batch 2014 have fair level of reading comprehension in TOEFL-like.

EED of UMY batch 2014 students’ reading comprehension was influenced by their intelligence as Woolley’s (2011) statement that reading comprehension involves cognitive skill or intelligence in the process of reading. According to Philips (2011), reading comprehension questions of TOEFL test consist of main

idea questions, directly and implied detail questions. Then, Brown (2000) stated that there are some reading comprehension strategies to help students comprehend the reading: identifying the reading's purpose, using silent reading technique, using skimming reading technique for main ideas, using scanning reading technique for detail information, using semantic mapping strategy or meaningful cluster, guessing reading, analyzing vocabulary, distinguishing between direct and indirect meanings, and capitalizing on reading markers. Meanwhile, EED of UMY batch 2014 students not understand and used all reading strategies of Brown's suggestion to comprehend reading on TOEFL-like test as seen from the result that their reading TOEFL-like score still in the fair level.

The correlation between students' most dominant multiple intelligence and their reading comprehension in TOEFL-like at EED of UMY batch 2014. The result showed that the significance value was 0.009, and this value was lower than 0.05 ($0.009 < 0.05$). It means that there is a positive correlation between existential intelligence as students' most dominant multiple intelligence and their reading comprehension in TOEFL-like at EED of UMY batch 2014. Then, based on Sugiono's (2011) criteria correlation value, the strength of the correlation was moderate level. The correlation value (r value) of the result was 0.421, and this value belongs to the "moderate" level of coefficient correlation. Besides, the result means that the alternative hypothesis (H_1) is accepted which there is a correlation between students' most dominant multiple intelligence and their reading comprehension in TOEFL-like at EED of UMY batch 2014.

Moreover, the correlation between existential intelligence and students' reading comprehension in TOEFL-like were caused by the way of existential person to think critically in answering a question. This result was supported by Logsdon's (2016) statement that existential people think critically on nature of existence and reality of this universe. It can be assumed that existential people use their critical thinking ability to think all their curiosity. According to Duron, Limbach and Waugh (2006), critical thinking is the brain's ability "to analyze and evaluate information (p. 160). Besides, reading comprehension is also the brain ability to analyze authors' meaning of the text. Hence, existential people think critically on analyzing and evaluating information that also used in reading comprehension.

Furthermore, these variables have relation because both of them are same as a cognitive process in the brain. According to Hajhashemi, Akef and Anderson (2012) explained that reading is a cognitive process that uses brain ability to construct author's meaning. It can be assumed from the definition, there is brain role in reading activity which means that someone's intelligence is related to his or her reading comprehension. Thus, students' reading comprehension in TOEFL-like score was influenced by their existential intelligence.

The finding of this research was supported by Sabet and Kiaee's (2016) research that found that there is a positive correlation between students' multiple intelligence and their reading comprehension proficiency, but the strength of correlation was weak. In other research by Fahim, Bagherkazemi and Alemi (2010) found that some intelligence types of

multiple intelligences are correlated with reading TOEFL and IELTS. However, the result of their research revealed that only linguistic and logical intelligence that correlated with reading TOEFL. Besides, this research found that existential intelligence as students' most dominant multiple intelligence positively correlated with their reading comprehension in TOEFL-like at EED of UMY batch 2014.