THE RELATIONSHIP BETWEEN MULTIPLE INTELLIGENCES AND READING COMPREHENSION ACHIEVEMENT OF THE ELEVENTH GRADE STUDENTS' OF SMA NEGERI 8 PALEMBANG

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Abstract: The objectives of this study were to find out : (1) How multiple intelligences of the students look like, (2) How reading achievement of the students looks like, (3) Whether or not there is a significant correlation between multiple intelligences and reading comprehension achievement of the students (4) How much multiple intelligences contribute to reading comprehension achievement of the students and (5) Which type of multiple intelligences singnificantly influence reading achievement of the students most. The study was correlational with univariate and bivariate analyses. The sample was the eleventh grade students of SMA Negeri 8 Palembang with the total number 157 students. To collect the data and to measure students' multiple intellgences and reading comprehension achievement, a questionnaire and reading test were given. The result showed that intelligence that students had the most was interpersonal and reading comprehension achievement of the students was low. There was no significant correlation between multiple intelligences and reading comprehension achievement with the r-obtained was lower than value of r-table (0.150 < 0.159) at the 0.05 level (2-tailed) and p value (0.066) was higher than (0.05). Then, it was found that the multiple intelligences only contributed 19.2% to reading comprehension achievement and the intelligence which significantly contributed to reading comprehension achievement was logical-mathematics as the higest.

Keywords: *Correlation, Multiple Intelligences, Reading Comprehension Achievement*

The school-based (KTSP) curriculum states that the aim of learning English for senior high school students is to develop their ability to communicate in English in oral and written form which includes speaking, reading, listening and writing.

According to Balcı (2009), reading is a complex cognitive process which is realized by combining many functions like seeing, perceiving, vocalizing, comprehending, and constructing in the brain. It is very important course because reading, which makes it possible for the individual to express himself or herself better and more accurately by supporting his ability to speak, enables the improvement of an individual's creativity, abilities, concrete thoughts, imagination, and cognitive and motor skills, and supports his personal

development (Hughes-Hassell & Rodge, 2007).

Regarding the importance of reading, Talebi (2012) states reading is one of the important aspects in the process of learning a language because when students read, they can add out knowledge and information from the reading text. In Indonesia, the students reading achievements is far being expected. According to Program for International Assessment (PISA) in 2009, Indonesian students' score was below the OECD average which was on the 57th ranks out of 65 countries. Furthermore, according to Wasliman (2003,p.2), reading score of Indonesian students' among East Asia is the lowest, as reported by the International Association for the Evaluation of Education Achievement in Asia. The reading ability of Indonesia students is just capable of mastering 30% reading material. They find difficulties in reading items which are the form of commentary that need cognitive process

Many factors cause the phenomenon problem of this students' poor reading achievement. Based on the interview done by Sakina (2014) with an English teacher in one of junior high schools in Palembang, she found that there are three main factors making the level of students' reading skill still low such as (1) lack of vocabulary, (2) lack of prior knowledge, and (3) low interest in reading. Armstrong (2002, p. 65) states in his book that there are two individual differences of the language learner that could influence the extent to which he or she learns the second language. One of them is cognitive variable which is intelligence. It can be implied that in learning English, including reading, the intelligence is involved. Therefore, the writer is interested in knowing whether or not their multiple intelligences are

one of the reasons which made it happen. Gardner (1983) states that there is not only one form of cognition which cuts all across human thinking. There are multiple intelligences with autonomous intelligences capacities. A former study had been conducted related to multiple intelligence. Himayana (2006) correlated the senior high school students' multiple intelligence and their English achievement. Her finding was that from 48 students who have logical-mathematical intelligence, 9 of them got lower score, 18 got average score, 16 of them got good score, and 5 of them got excellent score. It can be seen that the students who got better good score are the ones having logical-mathematical Intelligence. Last, Fahim, Bagherkazemi, and Alemi (2010), in their study entitled The relationship between test takers' multiple intelligences and their performance on the reading sections of TOEFL and IELTS, found that linguistic and spatial intelligences correlate significantly with the reading performances of TOEFL and IELTS test takers and it can be predictor of the score on their reading test.

Weaver (2002, p. 14) states that reading is a process very much determined by what the reader's brain and emotions and beliefs bring to the reading: the knowledge/information (or misinformation, absence of information), strategies for processing text, moods, fears and joys – all of it. Meahwhile, reading achievement is the level of attainment in all or any reading skills, usually estimated by how a person performs in a test. Students' reading achievements correlates with success in education and life.

The theory of multiple intelligences formulated by Gardner (1983) has great potential in

revolutionizing the common concept of human capabilities (Christison, 1996). There are many definitions of the eight intelligences given by proponents of the theory. Here, the ones stated by Nolen (2003) are taken as reference for the deliberation.

- Verbal/Linguistic Intelligence

  This intelligence involves those with the mastery of language and they have the tendency to think in words and are highly skilled listeners.

- Logical/Mathematical Intelligence

  This intelligence consists of the ability to detect patterns, reason deductively, and think logically because they are able to follow logical sequencing from the teaching.

- Visual/Spatial Intelligence

  These intelligences would enable one to manipulate and create mental images in order to solve problems.

- Bodily/Kinesthetic Intelligence

  People with this intelligent is quite commonly because they use their body in very expressive and skillful ways for a distinct purpose.

- Musical/Rhythmic Intelligence

  Those individuals with high musical intelligence use sound to the fullest extent. They understand well, the pitch, rhythm and timbre of music and can convey their emotions through it.

- Interpersonal Intelligence

  The interpersonal intelligence is the ability to understand, perceive and discriminate the moods, feelings, motives and intelligences of others.

- Intrapersonal Intelligence

  Those who display intrapersonal intelligence are often imaginative, original, patient, disciplined,

motivated and have a great deal of self-respect.. They are able to see what needs to be done in their minds to eventually make it happen

- Naturalistic Intelligence

  It involves the ability to understand the nature's symbols and to respect the delicate balance of nature that has allowed us to live. They genuinely appreciate the intertwining of natural forces

METHODOLOGY

This study was a correlational study. This design was concerned with assessing relationship between two or more phenomena. The relationship measured was a statement about the degree of association between the variable of interest. Besides, this study was also univariate in addition to explain the tedency of students' multiple intelligences and reading comprehension achievement. The population of this study was 399 eleventh grade students of SMA Negeri 8 Palembang and the sample was 157 eleventh grade students which were taken from two majors (science and scocial) classes.

The technique used to collect the data was purposive sampling in order to select the sample for the specific purpose. The science and social classes were taken because they respresented two differennt diciplines. To collect the data, all the students were assigned to give some responses on questionnaire to figure out the intelligence and reading comprehension test was used in order to measure their reading comprehension achievement. Both instruments were valid and reliable. The questionnaire used was ready made by Rogers (2011) For reading comprehension test, the test was taken from books Interlanguage (2008) and Developing English

Competencies 2 (2008). It was tried out to non sample students. The result showed that based on Corrected-Item Total Correlation, there were 10 out of 45 items whcih must be removed because those items were lower than r value (0.187).

After collecting the data, the data were analyzed by using pearson correlation and regression analysis. Pearson correlation was used to analyze whether any significant correlation between the two variables, meanwhile, regression analysis was used to analyze the contribution of multiple intelligences to reading comprehension achievement.

FINDINGS

Based on the data obtained, the students' scores on the questionnaire ranged from a minimum of 17 to a maximun of 28 with the mean of 23.07 and a standard deviation of 2,783.

Table 1. Descriptive Statistics of the Multiple Intelligences questionnaire

No. of students	No. of items	Min
150	56	17
Max	Mean	SD
28	23.07	2.873

Furthermore, it can be seen in chart that most students' intelligence based on the highest score from the questionnaire was in intrapersonal (see Figure 1). The total number of students who had this type of intelligence was 107. Meanwhile the least number was in natural. There were only 8 students in this category. In this data, Some of the students had more than one strongest intelligence (inclusive) not only one intelligence (exclusive). Unfortunately, this intelligence will not help and cause anything to their reading achievement.
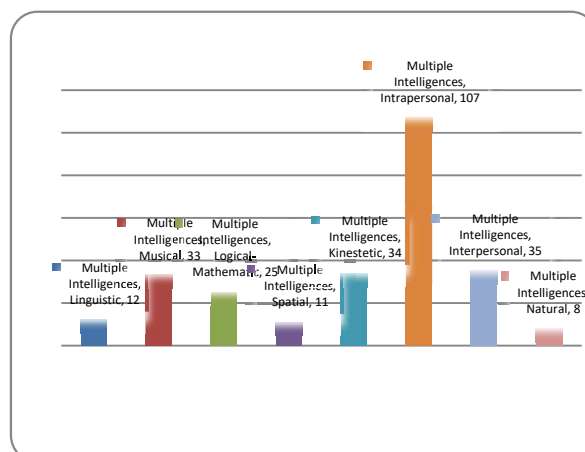

Figure 1. Students' Responses

The students' scores on the reading comprehension test ranged from a minimun of 26 to a maximum of 91 with the mean of 68.33 and a standard deviation of 13.546 (see Table 2).

Table 2. Descriptive Statistics of the Reading Comprehension Test

No. of Students	No. of items	Min
150	35	26
Max	Mean	SD
91	68.33	13.546

The passing grade of the English subject in SMA Negeri 8 Palembang was 75. The passing grade score of the school was used as the criterion to measure the reading comprehension achievement of the subjects in the study. After having the test, it was found that the highest score was 91 and the lowest score was 26 . The score distribution of the students' reading comprehension test is presented in Table 3.

As shown in Table 3, it can be seen that there were 55 or 36.7% of the students whose scores were ≥75. The data showed that only a few students who did the test had passed the passing grade of the English subject which was 75. It can be concluded that the samples

were unsuccessful in their reading comprehension achievement since their scores mostly had not passed the passing grade. Furthermore, the score gap was very far between the minimum and maximum. It means that the students' reading skill is not equal

Table 3. The Score Distribution of the Reading Comprehension Test (N=150)

Score Interval	Category	N	%
≥75	Pass the passing grade	55	36.7
<75	Below the passing grade	95	63.3

Table 4 shows that the value of r-obtained correlation coefficient of the multiple intelligence intelligences and reading comprehension achievement was 0.150 and the correlation index number was not given minus (-) symbol which mean there was no significant correlation between multiple intelligences and reading comprehension achievement and the direction was positive.

In coclusion multiple intelligence increase will not cause the reading comprehension achievement increase. In other words, It can not be a reference in determining the students' reading comprehension achievement.

Table 4. Correlation Analysis: Multiple Intelligences and Reading Comprehension Achievement

Variables	r	Sig (2-tailed)
Multiple Intelligences	.150	.066
Reading Comprhension Achievement		

Table 5 presents the summary of the correlation of each type of intelligence can be identified. Among the eight types of intelligence there were three types which have a significant correlation. First, logical-mathematics was the most significant with r-obtained correlation coeficient value 0,284** .The second was lingusitic with r-obtained value 0,281**. Kinesthetic was the third with r-obtained correlation coeficient value -0,163* but the value was given minus symbol (-) which means that the direction was negative.

Table 5. Correlation Analyses: Each Type of Intelligences and Reading Comprehension Achievement

No	Variables		r	Sig. value
1	Linguistic		.281**	.000
2	Musical		.156	.056
3	Logical-Mathematics	Reading Comprehension Achievement	.284**	.000
4	Spatial		.059	.473
5	Kinesthetic		-.163*	.046
6	Intrapersonal		.091	.269
7	Interpersonal		.035	.672
8	Natural		-.002	.982

Table 6. Regression Analysis (Enter): Multiple Intelligences Contribution to Reading Comprehension Achievement

Model	R	R Square Change	Sig.
Multiple Intelligences	.438	.192	.000

Table 6 showed that 19.2% of multiple intelligences contributed to the reading comprehension achievement. It happened because from those eight intelligences there were three intelligences which were considered to give a significant contribution to students' reading comprehension achievement.

Table 7. Regression Analysis (Stepwise): Each Type of Intelligences Contribution to Reading Comprehension Achievement

Model	R	R Square Change	Sig. F Change
1. Logical	.284	.081	.000
2. Kinesthetic	.355	.046	.006
3. Linguistic	.398	.032	.020

Table 7 showed that from eight variables entered there were only logical, kinesthetic and linguistic which were not removed. which mean that 8.1% of logical-mathematics, 4.6% of kinesthetic and 3.2% of linguistic contributed to the reading comprehension achievement. This result was in line with the result of correlation of each intelligence to reading comprehsion achievement in which logical-mathematic, kinesthetic and linguistic had significant correlation.

CONCLUSION AND SUGGESTION

Three conclusions were drawn in this study. First, the tendency of students' multiple intelligence was mostly in intrapersonal and reading skill of students' as whole is low consulted to the reading comprehension achievement result. Second, there was no significant correlation between the multiple intelligences and reading comprehension achievement and it had very weak correlation according to the degree of correlation coefficient from the interpretation. Third, there was contribution of the multiple intelligences to the students' reading comprehension achievement. Although the contribution was relatively small which was 19.2% and the most significant intelligence was Logical-Mathematics which was 8.1%, the multiple intelligences could be considered to determine the students' reading comprehension achievement.

Other determinations may come from other factors such as students' reading habit, reading skill, reading strategies, vocabulary knowledge, and background knowledge.

From this study, the writer would like to give three suggestions. First, the teacher still can adopt multiple intelligence in order to create a learning activities of teaching reading in class not a predictor for students' reading achievement. Second, although there is no significant correlation between multiple intelligences and reading comprehension achievements. The students could use the information of their multiple intelligences in order to help them in increasing their reading comprehension achievement. The third, for further researchs, I hope other researchers will not only relate multiple intellgence as the predictor of students' achievement on English skill (Litening, Speaking, Reading, and Writing) but add more variabels because if not the the result can be predicted already and it will be no significant correlation.

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