

INVESTIGATING THE CORRELATION BETWEEN CRITICAL THINKING ABILITY AND GRADE ELEVEN STUDENTS' VOCABULARY ACHIEVEMENT

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ABSTRACT

This research entitled "Investigating The Correlation Between Critical Thinking Ability and Grade Eleven Students' Vocabulary Achievement at SMK Bhakti Persada Bekasi" principally aims to investigate whether or not there is correlation between critical thinking ability and vocabulary achievement. This research was conducted on the grade eleven students at SMK Bhakti Persada, Pondok Gede, Bekasi, at in the Academic year of 2016/2017. Research methods used in this research was correlation, quantitative and the design was ex-post facto design. To collect data the researcher used two instruments in the form of objective, multiple choice each numbering 30 for X variable and 32 for Y variable out of 50 question items for X and also 50 items for Y having been tried out in class XI at SMK Bhakti Persada, Pondokgede, Bekasi. The scores obtained from the try-out class were used to analyze the validity, reliability, discrimination power and difficulty index of each question item in two instruments. The population of this research was grade eleven students consisting of 212 students occupying 7 classes. The number of samples was 37 students seating in accounting class taken from the population using cluster random technique. The results obtained from samples were used to analyze the data using statistical formulas of Pearson's Product Moment, preceded by normality and linearity test as the pre-requisite requirements for data analysis. The analysis using SPSS-based Product Moment formula produced significance (Sig.) value of 0.000. Since the significance value was smaller than ($<$) Alpha 0.05, H_0 is rejected and H_a is accepted. Accordingly the research concludes that there is significant correlation between critical thinking ability and grade eleven students' vocabulary achievement at SMK Bhakti Persada Bekasi in the Academic Year of 2016/2017.

The key word: *critical thinking ability, vocabulary achievement*

Introduction

Education is one of the important factors of a country. A good education will produce the next generation of intelligent and competent in their fields. So that the condition of the nation will continue to experience improvements to their successors are qualified generation of people. Unfortunately, the quality of

education in Indonesia is still far from other countries. Minister of Education and Culture, Anies Baswedan, say, the average value of the high school level UN 2016 decreased from the previous year. "Overall, the average value of UN SMA / MA public and private decreased. In the previous year, the average value of as much as 61.29 while in 2016 the average value of only 54.78. Thus, a decline of 6.51 figure if compared the average value of the previous year UN. Meanwhile, for the UN SMK declined 4.45 points, from 62.11 (in 2015) to 57.66 (2016). (Anies Baswedan, personal communication, May 15, 2016). This fact is certainly painful for education in Indonesia.

The problem of the students in learning foreign languages is that there are differences between the pronunciation and writing. Students often find it difficult to use foreign languages because they don't have enough the vocabulary and they often forget the new vocabulary easily after they get their meaning from the dictionary. Sometimes in speaking class, students are not able to talk fluently due to their lack of vocabulary. They say only a few sentences because they could not find the proper vocabulary to use in expressing their ideas.

Critical thinking is a topic that is important and vital in an era of modern education. The specific objective of learning to think critically in English language education is to improve students' thinking skills and also prepare them to be successful in living her life. With the ability to think critically high by higher school students, they will be able to reach the standards of competence stipulated in the curriculum or to be achieved in the learning process, and they will be able to design and sail through life on a future filled with challenges, competition, and

uncertainty. According to Lou Holtz (as cited in Darmadhi, 2008, p.14) that stated “Ability is what you are able to do.” It means ability is general not confined by the limitations.

Vocabulary is one of factors that support students for mastering language skills. There are listening, speaking, reading, and writing. Without sufficient vocabulary, people can not communicate effectively or express his ideas in both oral and written form. To support the speaker’s interaction in communication, vocabulary becomes important because it can be used as basic foundation to construct a word into a good sequence of sentence. Therefore, the students should have to obtain vocabulary mastery.

The previous relevant researches that revealed summarization strategy can improve students’ reading comprehension ability are : 1) Zahra Kamali, Mansoor Fahim (2011) that revealed result the positive relationship between learner factors and language proficiency, this study investigated the relationship between critical thinking ability, resilience, and reading comprehension of texts containing unknown vocabulary items. 2) Mohammad Nabi Karimi, Mohammad Reza Hashemi and Mehran Sarbazfard (2015) As the result showed a positive correlation between critical thinking, emotional intelligent and vocabulary knowledge. It seems necessary to include in the educational materials the potential to invoke and promote critical thinking and emotional intelligent skill in EFL students. 3) Mansoor Fahim and Ali Komijani (2011) the result of the statistical analysis revealed that Iranian EFL learners’ L2 vocabulary knowledge was significantly related to their critical thinking ability. The participants’ critical

thinking ability also correlated positively with their self-assessed degree of determination, memorization, cognitive, and meta-cognitive strategies of L2 vocabulary learning. The study also showed a positive relationship between participants' L2 vocabulary knowledge and their L2 vocabulary learning strategies.

Based on the explanation above, the writer takes the title "Investigating The Correlation Between Critical Thinking Ability and Grade Eleven Students' Vocabulary Achievement at SMK Bhakti Persada Bekasi". To examine the correlation of critical thinking ability and vocabulary achievement is formulated as follows : "Is there any correlation between critical thinking ability and grade eleven students vocabulary achievement at SMK Bhakti Persada Bekasi?"

Method

Hypotheses

To find out whether or not there is correlation between critical thinking ability and vocabulary achievement, the hypotheses are formulated as follows:

1. Null Hypothesis (H_0)

There is no significant correlation between critical thinking ability on grade eleven students' vocabulary achievement at SMK Bhakti Persada Bekasi.

2. Alternative Hypothesis (H_a)

There is significant correlation between critical thinking ability on grade eleven students' vocabulary achievement at SMK Bhakti Persada Bekasi.

Research Design

In this research, the researcher used an Ex Post Facto research method. This research without treatment but only collect the primer data. Ex post facto design is a non experimental research technique in which preexisting groups are compared on some dependent variable, it is a type of study that can masquerade as a genuine experiment. This non experimental research is similar to an experiment because it compares two or more groups of individuals with similar backgrounds who were exposed to different conditions as a result of their natural histories.

Participants

On the reseach the writer took the population of grade eleven students in the first semester of SMK Bhakti Persada Bekasi in academic years 2016/2017. The total of population is 212 students who consist of 2 accounting classes: the first class consist of 33 students and the second class consist of 23 students; 2 computer engineering classes: the first class consist of 26 students, the second class consist of 34 students; 3 marketing classes: the first class consist of 37 students, the second class consist of 35, and the third class consist of 34 students. The sample class was the students of marketing class 1 consist of 37 students.

Variables and Measures

In this research, independent variable is Critical Thinking Ability. Dependent variable in this research is Vocabulary Achievement. The students score taken by measuring their ability from the indicators as follow:

1. The students are able to find the inferences from the text.
2. The students are able to critisize assumptions from the text.
3. The students are able to find deductions from the text.

4. The students are able to evaluate the arguments from the text.

To measure students' vocabulary achievement, the writer took score from indicators of vocabulary achievement, as follows:

1. The students are able to define the definition of the given words.
2. The students are able to select the synonym of the given words.
3. The students are able to select the antonym of the given words.
4. The students are able to fill in the blank in the sentence with the correct word.
5. The students are able to determine Indonesian equivalence of the English word given.

Validity and Reliability

The indicators of critical thinking ability and vocabulary achievement were developed to be instrument. The instrument was objective test with 50 items. Those items were analyzed its validity using Pearson Product Moment Correlation Coefficient, reliability using Alpha Cronbach formula, difficulty index and discrimination power to obtain good instrument using SPSS. After the items have been analyzed, the good items that valid, reliable, satisfactory and medium were chosen to obtain good data. The question items were left 30 numbers for critical thinking ability and 32 numbers for vocabulary achievement.

Procedure

Procedures of the research are:

1. **Planning.** Planning phase of this research is preparing and arranging the research design to get the research data. Before conducting the research, the writer formulates the hypothesis based on some related theories. The writer

also develops the instrument to test students' vocabulary and critical thinking ability by multiple choice questions and questionnaire.

2. **Collecting Data.** The instrument was tried out first before it was given to the sample classes to find out its validity, reliability, discrimination power, and difficulty index. Only the good question items were given to the sample classes.
3. **Data Analysis.** The data collected from the sample classes are analyzed using ANOVA after they have fulfilled the pre-requisite analysis of normality and linearity.
4. **Reporting.** The research finding is reported and written based on the formal frame of writing. The report consist of background, foundation of theories and hypothesis formulated including research methodology which is used in this research, and data analyzing procedures backed up with the needed documents.

Result

The data are presented in the following table.

Table 1 : Statistics

		CT	VA
N	Valid	37	37
	Missing	0	0
Mean		11.8649	14.05
Median		12.0000	14.00
Mode		15.00	12 ^a
Std. Deviation		3.01074	2.972
Variance		9.065	8.830

Range		11
Minimum	12.00	9
Maximum	6.00	20
Sum	18.00	520

From the table above, it can be seen that the Mean (the average score) of critical thinking and vocabulary achievement are 11.8649 and 14.05, respectively, while the variance are 9.065 and 8.830, and the ranged of the two groups of scores are 12 and 11.

Table 2 : ANOVA

	Sum of Squares	df	Mean Square	F	Sig.
(Combined)	283.925	12	23.660	16.718	.000
Between Groups	278.140	1	278.140	196.527	.000
VA * CT Deviation from Linearity	5.785	11	.526	.372	.955
Within Groups	33.967	24	1.415		
Total	317.892	36			

The Criteria :

- When Significance Score is higher than ($>$) 0.05, Linearity is not fulfilled
- When Significance Score is lower than ($<$) 0.05, Linearity is fulfilled

The result of calculation revealed that the significance (sig.) value is 0.000 which is lower than ($<$) 0.05, thus the linearity requirement of population is fulfilled. H_a is accepted.

Discussion

The research findings that there were individual cases occurring as shown by the results of the tests: a few samples performed well on the test of critical thinking ability but they scored low in test of vocabulary achievement. On the other hand, there were also a few cases in which the samples performed well in the test of vocabulary achievement yet they scored low in the test of critical thinking ability. However, such cases did not cause the effect to the general correlation that exists between critical thinking ability and vocabulary achievement as having been proven by this study and which have been seen shown by the previous relevant researches Zahra Kamali and Mansoor Fahim (2011) which mentioned the positive relationship between learner factors and language proficiency, this study investigated the relationship between critical thinking ability, resilience, and reading comprehension of texts containing unknown vocabulary items.

Teachers need more time to build the students' critical thinking ability because critical thinking is an important ability not only for English subject but it can be used for the future. This result is in agreement with Mohammad Nabi Karimi, Mohammad Reza Hashemi, and Mehran Sarbazfard (2015) findings that it was revealed that some components of intelligence enjoy a robust role in predicting the participants' L2 vocabulary knowledge. Finally, EFL instructors might reserve a good space in their programs to further nourish and build features of intelligence and critical thinking ability in the future generations of their L2 learners.

The students who have a good critical thinking, they can answer the question well. Because, they have a strategy to memorize the vocabulary. This result is in agreement with Mansoor Fahim and Ali Komijani (2011) findings that the participants' critical thinking ability also correlated positively with their self-assessed degree of determination, memorization, cognitive, and meta-cognitive strategies of L2 vocabulary learning. The study also showed a positive relationship between participants' L2 vocabulary knowledge and their L2 vocabulary learning strategies.

Conclusion

From the result of the data analysis, it is found that there is a significant correlation between critical thinking and vocabulary achievement. It means that the high scores of students' critical thinking ability tend to be followed by the high scores of vocabulary achievement. The present study focused on the significant role of critical thinking ability in the vocabulary achievement. It signified that critical thinking generally is related to language learning and especially to the development of vocabulary achievement. The result of this study revealed that those who were more critical thinkers improved better their vocabulary achievement and finally were more successful in vocabulary achievement.

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