THE EFFECT OF USING *FRINTZ' BRAIN* AND CROSSWORD PUZZLE ON VOCABULARY MASTERY FOR STUDENTS WHO HAVE DIFFERENCE LEARNING STYLE

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Abstract - The objective of this research is to investigate: (1) the different of students' vocabulary mastery between those who were taught trough frintz' brain and those who were taught through crossword puzzle, (2) the different of auditory and visual students' vocabulary mastery, (3) the interaction between teaching methods and learning style with students vocabulary mastery, (4) which method is more effective to improve auditory students' vocabulary mastery, and (5) which method is more effective to improve visual students' vocabulary mastery.The research was conducted at SDN Kramatjati 27 Pagi which is located at Jl. Kerja Bakti No. 01 East Jakarta from March 2016 to June 2016. The writer took the third grade students as her research participant. There were two classes at that school. Therefore, the writer took two classes as her research with 30 students in the grade III A and 30 students in the grade IIIB. The method of the research was a quasi experiment. The data were analyzed by two-way ANOVA..Based on the results of the data analysis, there were five conclusions drawn: first, there is significant difference of students' vocabulary mastery between those who were taught trough frinz' brain and those who were taught trough crossword puzzle. It was supported by the p-value of methods is smaller than ᵁ0.05. Second, there is significant difference result between auditory and visual students' on their vocabulary mastery. It was supported by p-value of learning style that is smaller than ᵁ 0.05. Third, there is significant interaction between vocabulary methods and learning style on students' vocabulary mastery. It is supported by the p-value of interaction which is smaller than 0.05. Fourth, frintz' brain is better crossword puzzle for auditory students on their vocabulary mastery at the third grade students of Elementary School. It is supported by the mean of frintz' brain in auditory 80.60 that is higher than the mean of crossword puzzle in auditory 75.53.

Keywords: Vocabulary mastery, Frintz'brain, Crossword puzzle, Auditory and visual learning style.

1. INTRODUCTION

Language is the most important means of communication for human being. As social creature, humans need language to get social responses from individual and group. Hornby stated "Language is the system of communication in speech and writing that is used by people of a particular country".[1] It means that English is a tool of communication for human.

One of the languages widely spoken in this world is English. It also becomes international language. In Indonesia, English is a foreign language. As Brown states, "English

is increasingly being used as a tool for interaction among nonnative speakers. One half one billion English speakers of the world learned English as a second (or foreign) language".[2] Therefore, it is not only used in their own country but also in other countries. English is learned as foreign language, thus English is as an important subject that have to be taught in any level of education, starting from elementary school it is considered as a local subject. English is as foreign language in Indonesia and has been taught from elementary school as a local content and Junior High School as a compulsory subject or even in University. However, in reality most students fall in learning the language due to

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[1] AS Hornby.2000.*Oxford Advance Learner's Dictionary Of Current English*. London: Oxford University Press. p. 199.

[2] H. Douglas Brown. 2001. *Teaching by Principles An Interactive Approach to Language Pedagogy*". San Francisco : Addison Wesley Longman, Inc, p. 118.

many reasons one of them is vocabulary mastery.

Ideally, to be able to use English completely, they have to learn the four language skills; listening, speaking, reading and writing. Yet, being able to master those skills, the students need vocabulary. The most important thing is that they have to acquire English that involve four language skills; they are listening, speaking, reading and writing. According McCarthy and O'Dell "English vocabulary has a remarkable range, flexibility and adaptability". [1] Moreover, mastering vocabulary is not only an element of mastering the language but it is the essential for comprehending the text and expressing the ideas.

In learning English, vocabulary is one of the important components to learn. Students must learn vocabulary because it is not simply words as part of grammar, but also they should learn about the meaning, so the students can use and understand how to speak clearly. As stated by Thornbury, "Without grammar very little can be conveyed, without vocabulary nothing can be conveyed".[2] It means that lacking of structure should be very little so that it can be communicated, but with no vocabulary nothing can be communicated.

Elementary school students, who are as the beginners of learning English as a foreign language learner, it is often finds the difficult words to understand. The first, they consider the teacher's explanation for meaning or definition, pronunciation, spelling, and grammatical function are boring. Usually, the students hear nothing in a vocabulary learning section but just listen to their teacher. The second, students only think of vocabulary learning as knowing the primary meaning of news words. Therefore, they ignore all other function of the words. The third, The teacher at elementary school pay less attention in teaching English as they spend a lot of time in checking students works. The fourth, the teachers focus on the textbooks only from school without looking for others material. Subsequently, the teachers are not creative in teaching and learning English especially vocabulary. The teachers in this case are not innovative enough in

searching, preparing and presenting materials, so the students will be difficult to understand the material.

Therefore, teachers are advised to find method as a tool to communicate with the students. According to Sanjaya, "Method is a way in achieving something". [3] It can be concluded the teachers have to use teaching methods when delivering materials, since the position of teaching methods is one of the efforts in order to achieve the learning objectives that have been formulated, and including also as an effort to stimulate student learning atmosphere. In addition, the method of teaching is also one of the components that can determine the success of teaching and learning activities.

The other factors are that many teachers do not realize that vocabulary is the major problems in confronting English as a foreign language. In a class, most of the students are passive because they don't have a lot of vocabularies. The teacher uses the old method which is teacher centered. After giving explanation, usually the teacher asks the students to answer the questions. So, during the teaching learning process, they do not pay attention and boring at the vocabulary subject. Because of that, the English teachers must have the ability to vary the teaching method which is focused on student centered. It is important for teacher to improve the vocabulary of the students by having many brilliant ideas and have more creative to make the lesson become more fun.

When the writer did the pre-survey in her class the students were not really interested in vocabulary lesson and the students kept speaking in their mother tongue, Indonesian, in the classroom. When the teacher asked them in English, many of them asked for the translation and answered in Indonesian or they spoke English but very little. Speaking activity was not their favorite, but when she used *crossword puzzle* as a method in vocabulary activity, they became enthusiastic. They were afraid of taking risks of making mistakes.It is assumed that they were interested in vocabulary because of application in the teaching *crossword puzzle*.

The writer faced other problem in school, she found that most of the student was able to say English words, but they could

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[1]Michael McCarthy & Felicity O'Dell, *English Vocabulary in Use* (Jakarta: Erlangga, 2001). p. 2.

[2] Scott Thornburry. 2002. *How to Teach Vocabulary*. England: Bluestone Press. p. 13.

[3] Wina Sanjaya.2011. *Strategi Pembelajaran Berorientasi Standar Proses Pendidikan*. Jakarta: Kencana Prenada Media, p. 127.

not improve their vocabulary ability. It might be caused by the fact that the students only had little vocabulary and they felt afraid of making mistake. Besides that, the students could not communicate in English. They answered the teacher's questions by using Indonesian. This could be seen from the students' feeling shyness to answer questions.

There are many methods that can be used to enhance students' vocabulary mastery. One of them is game. In this case, the writer used *crossword puzzle* as method to improve vocabulary mastery. The most of the teachers in Elementary School do not use appropriate method when they teach English to their students. It makes the students fell bored when teaching learning process. According to Paul "Puzzle is wonderful way for the lesson". [1] Therefore, the writer is interested to conduct the research in elementary school. If the students have a limited vocabulary, it is predicted that they will have difficulties to understand the lesson because mastering vocabulary is a key to understand the lesson.

Other method that can be used is *frintz' brain*, Sumantri and Purwarini states "*frintz'* method is one method that is designed to stimulate brain function to include all the intelligence that is continuous, varied and comprehensive".[2] The principle of this method is varied and continuous, which means that in the implementation of teaching and learning activities accomplished with varied and combined regular and timely manner so that the results are very satisfying.

Based on expert opinion it can be concluded that the learning method *Frintz' Brain* is a learning method that do individually and collectively to bring together concepts, facts, principles in order to interact socially in order to achieve the expected learning goals together.

Every student has different learning style. There were more than happy to learn in groups, learning by seeing, hearing or doing something that he had learned something can be remembered and understood well.

According DePetter and Hearchi" type of learning is the learning style of every individual who is the easiest way to absorb, manage and process information".[3] It means that learning styles can determine the learning achievement of students. It gives a strategy that suits their learning style, the students can develop better.

2. METHODS

This research belongs to quasi experimental research. Quasi experimental research is used for two classes experimental with different treatment. It is also used to take sample in a group of population. There were two reasons to apply quasi experimental research. (1) This study was carried out to apply two teaching vocabulary trough frintz' brain and crossword puzzle as method to improve students' vocabulary mastery; (2) It was also generated from number of experimental classes used in this research. It is suitable in that school because the writer does not choose the each student to place as sample. In other words, the students are chosen as it is. For example, there are two groups of students in same grade, named 3A and 3B; the writer took those two classes as her research, called as quasi experimental research. Meanwhile, if the writer conducted randomly the population in a new group, called experimental research.Two experimental classes cover two classes which each class was treated differently. There are 30 students for a group treated with frintz' brain (experimental group) and 30 students for a group treated with crossword puzzle (control group). In addition, the writer was intended to investigate learning styles factors. The design used in the study is a 2x2 factorial design.

3. FINDINGS AND DISCUSSIONS

The writer presents two data of dependent and independent students' vocabulary mastery in two different classes. A

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[1] Paul D. 2003. *Teaching English to Children*. Asia. Longman.

[2] Tim Power Brain Indonesia. 2011. *Praktis Brillian*. Bandung: Medium, p..7.

[3] http://sandurezu.wordpress.com/2013/02/05/mengenal-tipe-belajarmu-visual-auditori-atau-kinestetik/.

class which was treated by frintz'brain and the other was treated by crossword puzzle. From the research data collected, the writer computed them by descriptive statistics inclusive of size convergence of data by using SPSS 20.0 for Windows Versions: average (mean), median and mode. The size diversity was also measured: range, standard deviation, minimum and maximum score.

As mentioned previously, the data collected from the frintz'brain class and crossword puzzle were gathered and shown in appendix. In addition, the descriptive statistics and graphs for such data are shown in table 4.1 and 4.2.

Table 4.1 below shows the number of respondents who participated in this research. They were categorized based on their teaching method and learning style. There were 60 respondents which consisted of 30 students from a class treated by using frintz'brain and 30 students from a class treated by using crossword puzzle.

Table 4.1 Test between – Subject Factors

Between-Subjects Factors

		Value Label	N
Teaching Method	1	Frintz' Brain	30
	2	Crossword Puzzle	30
Learning style	1	Auditory	30
	2	Visual	30

Table 4.2 shows the vocabulary score distributed into groups where learning style consisted of auditory and visual students and teaching methods consisted of frintz'brain and crossword puzzle.

Table 4.2 Table Group Data of 60 Samples

Teaching Method/ Learning Style	Auditory	Visual	Mean
Frintz' Brain	83,80,93,80,73,8 3,83,70,67,90,73 ,77,87,83,87	90,77,87,80,77,73, 90,67,83,93,87,90, 77,87,83	$\bar{x} = 81.67$
Crossword Puzzle	63,80,67,86,75,6 5,70,77,87,81,90 ,74,75,73,70	82,77,87,82,63,67, 60,73,83,73,67,90, 83,77,67	$\bar{x} = 75.47$

From the table 4.2 above, it can be seen that the mode or score which has frequently shown from sixty sample, the overall mean of frintz' brain score of learning style was 81. 67 and crossword puzzle

was75.47, the maximum score was 90, the minimum score was 63, and the ranges are 26, the median wee 83. To be more specific, the data was divided into the mean score of crossword puzzle was 75.47 and median 75.00 and the ranges are 30.

Table 4.3 shows the descriptive statistics of learning styles which divided into mean scores of auditory and visual in their use of teaching method. Both frintz'brain and crossword puzzle has their mean scores and it would be described in the table below:

Table 4.3 Descriptive Statistics

Descriptive Statistics

Dependent Variable: Vocabulary Mastery

Teaching Method	Learning style	Mean	Std. Deviation	N
Frintz' Brain	Auditory	80.60	7.434	15
	Visual	82.73	7.401	15
	Total	81.67	7.369	30
Crossword Puzzle	Auditory	75.53	8.079	15
	Visual	75.40	9.140	15
	Total	75.47	8.476	30
Total	Auditory	78.07	8.051	30
	Visual	79.07	8.902	30
	Total	78.57	8.472	60

Considering table 4.3 above, the explanation falls into (a) the amount of auditory students who used two types of teaching method related to mean and standard deviation, and (b) the mount visual students who used two types of teaching methods related to mean and standard deviation.

For frintz'brain, there were 30 students. The students who are auditory account with the mean 80.60 and the standard deviation of 7.434: however for visual students, the mean score is 82.73 and standard deviation of 7.401.

The purpose of the hypothesis test is to get a conclusion whether the research hypotheses are supported by empirical data in the field as stated in statistical hypotheses. The two way ANOVA was used to determine whether the independent variable 1 has significant effect on dependent variable 2. Then, the two independent variables (X_1, X_2) are compared to identify the interaction between the auditory and visual students.

1. **The difference of students' vocabulary mastery between those who were taught through frintz'brain and those who were taught through crossword puzzle.**

After collecting the results of the test and calculating them with SPSS 20.0, the writer used Tests of Between Subject Effect analysis to investigate the differences of students' vocabulary mastery between those who were taught trough frintz' brain and those who taught through crossword puzzle. The results of each test can be seen in the following tables:

Table 4.9. Tests of Between Subject Effects

a. R Squared = .144 (Adjusted R Squared = .098)

The table for the first category above showed that p-value of teaching method is 0.004. It means that the p-value of teaching method is smaller than $\alpha\ 0.05.$ It is also supported by the F_{test} the $F_{observed}$ teaching method 8.910 is bigger than F_{table} 1.858. Therefore, the H_0 is rejected. It can conclude that there is significant difference of students' vocabulary mastery between those who were taught trough frintz'brain and those who were taught through crossword puzzle.

2. **The difference of auditory and visual learning style on students' vocabulary mastery**

From the table above for the second category, it is shown that the p-value of learning styles is 0.632. It means that p-value of learning style is bigger than α0.05. It is also supported by the $F_{test}.$

The $F_{observed}$ teaching 0.232 is smaller than 1.858. Therefore, H_0 is do not reject. It can be conclude that there is no significant difference between auditory and visual students on their vocabulary mastery.

4. CONCLUSION

There was significant difference between students who were taught trough crossword puzzle. It happened because of frintz'brain and crossword puzzle has its own characteristics to play. In crossword puzzle, the students have to solve to find the answer based on the clues given. Therefore, a student must be able to identify and understand the term being used. While in frintz'brain; before answering the question the students need to arrange the letters into meaningful words. As a results, crossword puzzle and frintz' brain gave different results. It is also proven by the means of frintz' brain. The mean frintz' brain is higher than crossword puzzle. Therefore, it is suggested for English teacher to teach vocabulary through frintz' brain. There is significant difference between auditory and visual students on their vocabulary mastery. The differences character between auditory and visual students will result different way to acquire vocabulary. From explanation above, writer found that auditory students tend to learn by hearing when they doing the tasks while visual students tend to learn by seeing their tasks. Therefore, it can be implied that the learning vocabulary between auditory and visual students are different each other in acquiring vocabulary. It is also proven by the means score.

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