

CHAPTER I

INTRODUCTION

1.1. Background of the Study

The mastery of vocabulary plays an important role on student's comprehension capability. The vocabulary knowledge in school can assist the students comprehend the texts they read or simply to acquire new insight on particular subject through reading. In a research conducted in 2000, the NRP (National Reading Panel) found a direct link to vocabulary development and reading comprehension. The NRP concluded that vocabulary knowledge should be taught explicitly to increase the achievement of student's reading. However, if the student has a limited vocabulary achievement, they are seemingly prevented from comprehending the text given for increasing their insight. Many research findings show that poor vocabulary knowledge leads to incorrect inferences or misunderstanding of the content while reading English materials in their academic studies (Nation, 2001).

The incapability of defining unfamiliar words may have a link to the effect of vocabulary teaching. In a study conducted by Andrew Biemiller (2005) shows that schools need improvement in vocabulary instruction; Numbers of research have shown that various technique to teach a single word would be beneficial to the degree of student's comprehension (National Reading Technical Assistance Center, 2010).

Whether the teaching approach is contextualized (putting the word in the context) or decontextualized (teaching word in isolated form), each has its own characteristics. For instance, a research on contextualizing the vocabulary by using shared-story technique showed that children who participated in the bookretellings were better able to explain the meanings of the targeted words (Leung, 2008). In addition, a study by Mondria (2003) found that contextualized learning would lead to a better retention. On the other side, the decontextualized teaching by using certain techniques also showed that it can improve students' comprehension of a certain vocabulary as long as the students link the word with their prior knowledge (Sarah Sippel, 2010). Such decontextualized techniques offered in few researches are by using organizer graph and word map. Graphic organizers are used as methods to help students "Organize their thinking so they can independently demonstrate their understanding of new concepts." (Brand, 2004).

The mastery of vocabulary can support the students in speaking when they are communicating with people; also, they would be able to write and to translate the meaning of words properly (Helena Fariska, 2010) if the instruction of teaching vocabulary is succeed and the students will no longer have difficulties to face the real-world task. However, in the Indonesian context, the place of vocabulary teaching has undergone changing depending on the existing curriculum. Even so, considering the context, vocabulary mastery appears to be the most significant element in the sense that good handling of vocabulary is likely to lead to solution of ELT (English Language Teaching) problems. Strategies of English teaching and

learning should be reinforced toward vocabulary acquisition (Bambang Yudi and Utami Widiati, 2010). Unfortunately, with a large amount of research available in the area of vocabulary learning and teaching, it becomes a disadvantage that not all language teachers try to implement it. This might be because of the gap happened between research and practice, or it might be because teachers' beliefs cannot adjust easily, since they feel comfortable with traditional methods (Francisca Maria, 2010).

1.2. Research Question

Based on the explanation above, the researcher would like to propose a research question, "What is the effect of vocabulary four square technique in student's vocabulary improvement?"

1.3. Scope of the study

This study used the daily vocabulary the students of junior high school grade seven may encounter in the daily lives: short notice and things in houses. The chosen topic of vocabulary was selected to support the learning program as has been stated in the *Kurikulum 2013* for Seventh Grader. The students have to define the meaning in isolated form by matching the words with its definition in the pre and post test. In addition, this study will examine whether or not there is an improvement on vocabulary mastery for seven graders in Labschool Junior High School.

1.4. Purpose of the Study

The purpose of the study is to find out whether or not there is an improvement in student's vocabulary achievement by using Vocabulary Four Square.

1.5. Significance of the Study

The result of this study will be documented to contribute to the disciplinary knowledge of English Educational Program in UNJ. In addition, this research can be the reference for both students and lecturer/teachers. For the students, this research may come as the reference to conduct a pedagogical-based research, as for lecturer/teacher, this research may come as the reference to build up student's cognitive skill on comprehending the vocabulary taught in the education institution.

CHAPTER II

LITERATURE REVIEW

2.1. Vocabulary concept

To express the idea through language, one must have mastered the use of proper vocabulary. The vocabulary itself is broadly defined as the knowledge of words and word meaning (NRTAC, 2010). The existence of mastering vocabulary will gain effect on the use of vocabulary in the nowadays communication, which takes an imperative role on how one will deliver their idea, through written or non-written media. The vocabulary insight plays a significant role because it covers all the words one should know to access to a new knowledge, express one's ideas and communicate effectively, and learn about new concepts. Students' word insight may link to the achievement of student's success due to students who have large vocabularies are able to comprehend new ideas and concepts faster than students with limited vocabularies. This has gained support on a basis that vocabulary is a solid attachment that holds stories, ideas and content altogether and to make comprehension easily reached for children (Rupley, Logan & Nichols, 1998). Thus, the role of vocabulary achievement can trigger the improvement on student's insight into any other perspective when they are facing the real-world circumstance.

Therefore, various vocabularies can be taught according to its classification to support one's competence on comprehending the daily communication. The students can learn various types of vocabulary as has been stated by Stephen Lauber (2014):

1. Academic vocabulary

Academic vocabulary can be defined as the words the students encounter in regular academic text and test. This type of words often shows as the skill words in "Learning Objectives". For those reasons, it is better to teach academic vocabulary as they arise, within the context of a lesson.

The example for academic vocabulary: *consist, constitute, indicate, occur, and respond.*

2. Content vocabulary

This type of vocabulary concerns with the specific words given in the specific domain or subject area, rarely being found outside the particular content area. This kind of vocabulary are stated in the concept development of a lesson, through the use of definition and explicit examples.

The example for content vocabulary: *prefixes, exponents, quantum, photosynthesis, and equilibrium.*

3. Support vocabulary

This type of vocabulary consists of any remaining words that students need to know in order to understand a particular sentence or phrase used in

a lesson. Support Vocabulary words are unrelated to grade-level concepts and skills and can typically be found in reading passages or text. These words are often not critical for the success of the lesson, however the students need to know in order to know the meaning of the words in the context of a lesson.

The example for support vocabulary: *invested, stock, marble, wild, and meter.*

In addition, the Common Core State Standards (2014) classifies the vocabulary into three types:

1. Tier one

Tier One words consist of everyday speech and Tier One words may be necessary for English Learners. Tier One words are not meant to be the focus of instruction, as they are often received through regular speech.

2. Tier two

Tier Two words are referred to in the standards as general academic words. Because of their importance in comprehending complex texts and wide applicability to all content areas, Common Core State Standard has stated that teaching Tier Two words is important throughout all grades and subjects.

3. Tier three

Tier Three words are domain-specific words. Their use is closely tied to a single area of study. These words are necessary for understanding new concepts taught during lessons, and, accordingly, appropriate attention should be given to Tier Three words.

2.2. Explicit instruction on vocabulary teaching

The mastery of vocabulary seems to remain slowly developed in terms of teaching it in school institution, in which the teaching itself is overlapped with another subject. Children that come in with lower vocabulary simply do not infer new words very well. The fact is that children with smaller vocabularies really need to have the words taught directly and they need explanation (Andrew Biemiller, 2010). The process of learning vocabulary is only be seen at being able to identify or produce a correct definition of word, whereas this style of learning vocabulary does not guarantee that student will likely remember its meaning properly and fluently during required task; research conducted by Bromely (2007) found that the traditional approach is to have students find the words out in dictionary, write definition, and use words in sentence. The likelihood of such approach is not easily applied to all student because they would find it uninteresting. The finding also has been figured out before by Richek (2006) when teacher makes vocabulary learning fun, creative, and foster a sense of competence in students, they want to learn and use new word meanings.

The vocabulary instruction must make certain, therefore, not only what the readers can define the meaning of word, but also that they have had sufficient practice to make its meaning quickly and easily accessible during reading section and any other task served (William E. Nagy: 1988). Vocabulary learning instruction aims at facilitating learners to understand the concepts of unfamiliar words, achieve more words than they used to have, and apply the use of words properly for the sake of communication. Thus, good vocabulary mastery would support the comprehension of the language skills, both receptive (listening and reading) and productive (speaking and writing). For example, in reading section, student's amount of vocabulary affects their comprehension of a reading text (Nuttall, 1989 as cited in Bambang Yudi and Utami Widiyanti, 2005); the same case in writing, vocabulary insight would contribute to the success in writing compositions up to 20% of the achievement level (Hartfield, et al., 1985).

There has to be an initiative explicit instruction to make students learn and retain the vocabulary in order to be successful in their learning. As the phrase suggests, the explicit instruction means that teachers have a great deal of responsibility to watch over student needs and provide the kind of scaffolding most appropriate throughout the learning process (Anita L. Archer, Charles A. Hughes: 2011). However, students have responsibility also. They must realize that they will be expected to perform the task by themselves, and they should then work toward achieving that goal (Jennifer Goeke: 2008 as cited in Shasta County Curriculum

Leads). Note that concerning with this vocabulary mastery, teacher will monitor student needs and give the support appropriately whereas the student cognitively engage throughout the learning meeting. Number of reasons the vocabulary learning instruction fail are the instruction itself does not provide a sufficient depth of word-knowledge, the misconception of applying definitional approach, and improper contextual approach for the beginner level (William E. Nagy: 1988). In order to handle such misapplying approach, William Nagy suggests the combination of definition and illustration of how the concerning word is used in natural context. The implementation of explicit instruction in mastering vocabulary will give a clear and exact way of how the students would perceive the word and retain it in their mind.

2.3. Vocabulary learning strategies

There are three essential vocabulary learning strategies (Michael Graves, 2006) listed:

1. Teaching individual words explicitly

Through the direct teaching of key words, students acquire the in-depth knowledge they need in order to understand the meaning of words they will encounter while reading. There are four ways to conduct explicit individual word teaching: giving student simple definition, using words in context, providing multiple experiences, and offering opportunities for actively involved in activity.

2. Teaching word-learning strategies

Word learning strategies are the equipments students can use to understand the meaning of unfamiliar words and increase their word insight. Teaching directly of word-learning strategies can help students become a good self-words learner (Blachowicz& Fisher, 2000)

3. Encouraging the word consciousness

Student's vocabulary improvement can be increased by the teacher's assistance by developing word conscious behaviors, for instance pointing a great interest in words, take a look at words, and learning new words. Playing word games, delivering a joke, and highlighting interesting words found in the texts are common ways to encourage word consciousness (Lehr, et al., 2004). Without the proper engagement and high attention of the students, there can be a little opportunity for other conditions favoring learning to take effect.

In addition, there are also numbers of other learning strategies proposed by Schmitt (1997). These strategies are:

1. Determination strategies

The strategies in which they are used by students to discover learning new words. This strategy offers learners to discover the meaning of words by themselves with no assistance from peers, such as guessing the words from the context.

2. Social strategies

The students learn new words through interaction with others. This strategy indicates such as observing their classmates and asking their teacher for the meaning of a word.

3. Memory strategies

are strategies, which engage learners in learning the new word through mental processing by associating their existing or background knowledge with the new word. For example, if the learner comes across the word “horse”, the learner can categorize the word “horse” under the category of a four-legged animal because the students already knows the image of these four-legged animals from his/her background knowledge. Another example is that the student sees a particular action or event from various sports on TV and guesses the name of the sport because he/she already remembers the actions associated with that sport.

4. Cognitive strategies

This strategy does not involve students in mental processing but is more mechanical. The example for this strategy is repeating the pronunciation of new words.

5. Metacognitive strategies

This type of strategy relates to processes involving monitoring, decision-making, and evaluation of one’s progress. Metacognitive strategies help the

student in choosing appropriate vocabulary learning strategies for learning new words.

2.4. Decontextualized versus contextualized word teaching

Along with the words the student encounter in their daily lives, the next question is whether the word should be taught on the basis of definition-based or contextualized? Whether the students should be taught individual word meanings directly or in context, seems to be an existing issue among language professionals. According to Sternberg (1987), even if most vocabulary is learned from context, one should not simply conclude that contextualized teaching is the most efficient way of learning vocabulary.

In a view of contextualized teaching, the likelihood of such learning argue that by learning words in context, the students will gain much not only the linguistic knowledge of a word but also phonetic, syntactic, and semantic rules (Seyyed Mohammad, 2012). In addition, if the word is only taught by definition only, students become only familiar with one word and may lead to shallow level of word knowledge.

On the other hand, decontextualized teaching, that is definition-based teaching, has different view. This kind of teaching allows students to memorize the word recognition when presented in isolation and minimal context (Laufer, 1997). He concluded that giving the vocabulary list based on isolation and minimal context have

more improvement on student's word recognition rather than giving the vocabulary list with more information (e.g. words in text-context and words in elaborated text context).

Perhaps the modeling of the decontextualized teaching can be seen from the CORE Vocabulary handbook (2006) on the direct teaching:

| Teacher direction | Classroom example |
|---|---|
| 1. Introduce the target word | <i>bystander</i> |
| 2. Give a student-friendly explanation | <i>A bystander is someone who witnesses something that happens, good or bad.</i> |
| 3. Provide a different context (not from the original text) | <i>Jake chose to be a bystander as he watched other kids in the hallway cheer the fight on.</i> |
| 4. Engage students actively with the words, including: <ul style="list-style-type: none"> • Question | <ul style="list-style-type: none"> • <i>Why do you think some people let themselves be bystanders?</i> • <i>Sarah, a bystander at the school dance, watched her best friend _____.</i> • <i>Can you describe a time when you</i> |

| | |
|--|---|
| <ul style="list-style-type: none"> • Finish the idea • Have you ever...? | <p><i>were a bystander and saw something bad happen? What did you do?</i></p> |
|--|---|

However, with these two views, there is no one superior approach to teach vocabulary. Each approach has its own uniqueness. Contextualized teaching allows students to have the inferences skill and meaning-guessing (Nassaji, 2006) when they face the reading comprehension. Decontextualized offers the students to better memorize the word list in their early stage of language learning (Meara, 1995).

In its analysis of the research on vocabulary instruction, the National Reading Panel (2000) found that there is no one best method for vocabulary instruction, and that vocabulary should be taught both directly and indirectly. Direct instruction means teaching specific words, such as pre-teaching vocabulary to have a reading activity. It is estimated that students can be taught explicitly some 400 words per year in school (Beck and Kukan, 2002). Another example of direct instruction involves the analysis of word roots and affixes (suffixes and prefixes). However, one cannot teach students all of the words they need to learn. Vocabulary instruction must therefore also include indirect instruction methods, for instance, exposing students to lots of new words and having them read a lot. Indirect instruction also includes helping students develop an

appreciation for words and experience enjoyment and satisfaction in their use (Baumann, 2003).

2.4. Previous researches

There are numbers of research found in the vocabulary field throughout the years. Notably, because vocabulary has the high correlation in the research literature of word knowledge. The vocabulary has link to the reading comprehension, which indicates that if students do not adequately and steadily grow their vocabulary knowledge, reading comprehension will be affected (Chall & Jacobs, 2003). Therefore, numerous researches which have been done so far can be seen in the following review.

2.4.1. Previous findings on vocabulary research

There are number of reports of what the vocabulary researches have stated. For instance, James Baumann and Gwayne Ash (2003) proposed three instructional objectives to teach vocabulary:

1. Teach the students to learn words independently.

The students need to be provided with activities that enable them to explore the richness and detail of word meanings in natural contexts (Scott and Henry, 1996), and provide them opportunities to make choices about and to assume responsibility for which vocabulary to learn (Fisher, 1996). In addition,

teaching students to use regular and specialized dictionaries can be essential for later continued and independent vocabulary growth.

2. Teach the students the meaning of specific words.

Teach synonym or definitions for specific words through mnemonic strategies is beneficial for the students. In addition, Simple definitional strategies prior to reading or listening activity will provide students a surface knowledge for words that they may learn more deeply and fully over time with additional following exposure.

3. Assist students to develop to appreciate and enjoy the words in their use.

Students need to have fun with words by providing supported games which linked to the content topics. In addition, the teachers need to support students in using vocabulary outside the school context (Beck, 1983). By doing these things, students can actually use the words in the real conversation.

The mastery of vocabulary can support the students in speaking when they are communicating with people; also, they would be able to write and to translate the meaning of words properly (Helena Fariska, 2010) if the explicit instruction of teaching vocabulary is succeed and the students will no longer have difficulties to face the real-world task. However, in the Indonesian context, the place of vocabulary teaching has undergone changing depending on the existing curriculum. Even so, considering the context, vocabulary mastery appears to be the most significant

element in the sense that good handling of vocabulary is likely to lead to solution of ELT (English Language Teaching) problems. Strategies of English teaching and learning should be reinforced toward vocabulary acquisition (Bambang Yudi and Utami Widiati, 2010). Unfortunately, with a large amount of research available in the area of vocabulary learning and teaching, it becomes a disadvantage that not all language teachers try to implement it. This might be because of the gap happened between research and practice, or it might be because teachers' beliefs cannot adjust easily, since they feel comfortable with traditional methods (Francisca Maria, 2010).

2.4.2. Previous findings on decontextualized vs. contextualized teaching

The research which focused on whether the vocabulary should be taught by definition-based or contextualized has been developed over the years. For instance, Zaid (2009) undertook a study for the purpose of exploring the effects of the two approaches in vocabulary instruction with 34 Level III College of Languages and Translation students. One approach emphasized direct teaching of the individual meanings for a set of unfamiliar words. The second approach emphasized teaching students to obtain word meaning from sentence context, rather than teaching specific meanings. Conducting both pre-test and post-test, he found that both approaches were effective in helping students acquire, retain and further remember the word items structured.

Interestingly, one research done by Sayyed Mohammad and SakineMomeni (2012) found that decontextualized group is slightly outperformed than contextualized group on the vocabulary post-test. The test itself involved 53 Iranian students of grade one in high school and pre-university as the contextualized group (e.g. infer the meaning from the context and identify the unknown words) and other 54 Iranian students as the decontextualized group (e.g. learning the translation of the new word before the lesson was carried out).

2.5. The Vocabulary Four Square Technique

Of the possible explicit instruction, the vocabulary four square technique is the technique offered in this research proposal. Brunn, M (2002) has mentioned that this technique allows students with the recognizable of words and concepts in the form of card organizer (see below). The organizers (definition, word picture, synonym, and one's own sentence) are a solid function to assist students comprehends the relationships that link the various parts together. The students are also introduced the words in decontextualized approach and the Vocabulary Four Square supports such approach by providing the scaffolding to help students – in this case, junior high school students— organizing their thinking to reach the purpose of independently demonstrating their comprehension of new words (Brand, 2004). The reason behind why choosing vocabulary four square technique is that it came from the evidence-based research study (Suggested in Anita Archer, 2011) and valued time effective for the teacher.

Number of research has shown how this technique gained few results. Sarah Sippel (2010) in her action research on fifth graders confirmed that the vocabulary four square was successfully implemented in a way that students learned the word definition and keep the information in mind. Most of them had the capability to remember words and give the proper meaning on the post-test assessment. In addition, Cockrum and Markel (2007) found that this four square technique enables student to be provided the cognitive connection to make sure they have comprehended the target words by establishing student's thought of a personal experience.

For more explanation on vocabulary four square, see the form below:

| | |
|---------------|--------------------|
| word | image of the word |
| your sentence | definition/synonym |

There are four sections provided in the form:

- **Word:** The student has to write down the word.
- **Image of the word:** In this section, the student has to draw the word (e.g. if the word is 'sad' then the student can draw a sad emoticon .

- **Definition/synonym:** It is up to students to comprehend the word by using the synonym or write down the definition, whether the definition itself in Bahasa Indonesia or English.
- **Your sentence:** The students then should make a sentence based on the word.

2.6. Quasi Experimental quantitative concept

2.6.1. Quasi experimental concept

Quasi experimental designs are considered to be the method for gaining information about causal relationships (Stephanie Tierney, 2003), allowing researchers to assess the correlation (relationship) between one variable and another. A principle factor of such designs is that one element is manipulated by the researcher to see whether it has any impact upon another. The element being manipulated by researchers is known as the independent variable, whereas the change (or outcome) resulting from the implementation of the independent variable is the dependent variable.

In addition, the quasi experimental study is said to be effective in the means of strengthening (Foster, J.J., 1995):

1. *Internal Validity* – This relates to how far a study has established whether a variable or condition under examination has had an effect. Controlling against unrelated variables strengthens internal validity.
2. *External Validity* – This relates to whether findings from a specific sample in a study can be generalized to a larger, target population.

2.6.2. Sampling technique in quasi experimental method

When determining the sample to be researched, there are five ways proposed by Hawkes and Marsh (2004):

1. Random sampling

A simple random sample of data from a population is collected in such a manner that every sample has an equal chance of being selected and included in the sample. The data is chosen randomly using either a random number table or a piece of software called a random number generator.

2. Stratified sampling

All of the data is divided into distinct subgroups or strata, based on a specific characteristic such as age, income, education level, and so on. All members of a stratum share the specific characteristics.

3. Systematic sampling

In systematic sampling, the list of elements is "counted off". This is similar to lining everyone up and numbering off "1,2,3,4; 1,2,3,4; etc". When done numbering, all people numbered 4 would be used.

4. Cluster sampling

The entire population of data is divided into pre-existing segments called clusters. Most often these clusters are geographic. Then clusters are randomly selected, and every member of each selected cluster is included in

the sample. This type of sampling is often used by government agencies and private research organizations.

5. Convenience sampling

This sampling is extremely fast, easy, readily available, and cost effective. Through this method, researchers can easily finish collecting their data in a matter of hours, free from worry about whether it is an accurate representation of the population. This allows for a great ease of research, letting researchers focus on analyzing the data rather than interviewing and carefully selecting each participant.

2.6.3. Research designs

The quasi experimental uses the following design (C. Moorhead, 2005):

Two groups, Nonrandom Selection, Pre-test, Post-test

| Group | Pre-test | Treatment | Post-test |
|-------------------------------|----------|-----------|-----------|
| <i>Experimental group = E</i> | O | X | O |
| <i>Control Group = C</i> | O | | O |

- The main weakness of this research design is the internal validity is questioned from the interaction between such variables as selection and maturation or selection and testing. In the absence of randomization, the possibility always

exists that some critical difference, not reflected in the pretest, is operating to affect the posttest data. For example, if the experimental group consists of volunteers, they may be more highly motivated, or if they happen to have a different experience background that affects how they interact with the experimental treatment - such factors rather than the treatment (X) by itself, may account for the differences.

2.7. Labschool Jakarta Junior High School

The school chosen for this research was at Private Junior High School of Labschool Jakarta. The school itself is located next to the State University of Jakarta Campus A. According to the administration officer of junior high schools, the students are in the mid to high social class and background.

2.8. Theoretical framework

This research will be conducted in the decontextualized vocabulary area (teaching the words in isolated form) for it takes lesser times to collect the data. The vocabulary four square will support the word teaching because Laufer (1997) has stated that recognition on vocabulary is simpler to achieve if the students are not exposed too much in the information of the concerned vocabulary. Additionally, this research is concerned with the cognitive strategies as has been proposed before by Schmitt

(1997). This strategy allows the students to have more practice on the new words given. Pre and post test is conducted by matching task as has been proposed by Brown (2003) since the decontextualized teaching is presented. The words taught are categorized Tier One (Common Core State Standards, 2007) because these words are found in the daily life, specifically in the short notice and things found in the house.

2.9. Research hypothesis

The hypothesis for this research is as follow:

- H_0 : There is a significant improvement on student's vocabulary mastery.

CHAPTER III

METHODOLOGY

This chapter explores the research methodology and its part the researcher proposed. This research uses quantitative experimental design.

3.1. Method and Design of the Study

This study used quasi experimental quantitative research method. StephenieTreyer (2003) defined quasi experimental study as the method for gaining information aboutcausal relationships. In addition, this study used *Two groups, non-random selection, pre and post test*(Moorhead, 2005). One group was as treatment group and another one was as control group. The pre and post test served in the form of matching task, an assessment proposed by Brown (2003). The students had to respond correctly between the word and its proper meaning. The quasi experimental study design is seen in the following illustration:

| Group | Pre-test | Treatment | Post-test |
|-------------------------------|----------|-----------|-----------|
| <i>Experimental group = E</i> | O | X | O |
| <i>Control Group = C</i> | O | | O |

3.2. Population and sample

3.2.1. Population

The population of this research is Junior High School students in their first semester in the academic year 2014/2015. They have been in the grade seven for first six months and the exposure to the vocabulary teaching was needed to support the learning activity of English lesson.

3.2.2. Sample

The sample taken for this research is 80 students of grade seven Labschool Junior High School .40 students did act as the experimental group and other 40 students served as control group. The type of sampling the researcher used was convenient sampling, since the researcher is the teacher in the school and the sample is readily available to be examined. There was no randomization in choosing the sample, instead the researcher used the existing regular classes in his lesson time to be served as the experimental and control group because of the matter of time effectiveness. In addition, mixing up the students from one class to another was hard to do since it would disrupt the learning time for other subjects.

3.3. Time and Place of the Study

This study has been started since the end of September and expected to be done in December 2014. This research took place in a Junior High School of Labschool Jakarta academic year 2014/2015 for eight meetings (each meeting was carried out 30 minutes at maximum) in obtaining the data and State University of Jakarta English Department to carry out literature review, research revision under the supervisor's direction, and completion of the research itself. Below is the specific time line the research was conducted in collecting the data.

Meeting 1: On the pre test and for post test in second meeting

Date and time:

- October 15th 2014 / 13.15 – 13. 40 (Experimental group)
- October 15th 2014 / 11.05 – 11.20 (Control group)

Meeting 2: On the pre test and for post test in third meeting.

Date and time:

- October 17th 2014 / 08.56 – 09.28 (Experimental group)
- October 17th 2014 / 11.09 – 11.28 (Control group)

Meeting 3: On the pre test and for post test in fourth meeting.

Date and time:

- October 22nd 2014 / 13.10 – 13. 40 (Experimental group)

- October 22nd 2014 / 11.00 – 11.28 (Control group)

Meeting 4: On the pre test and for post test in fifth meeting.

Date and time:

- October 29th 2014 / 13.10 – 13. 40 (Experimental group)
- October 29th 2014 / 11.00 – 11.28 (Control group)

Meeting 5: On the pre test and for post test in sixth meeting.

Date and time:

- November 14th 2014 / 09.00 – 09.24 (Experimental group)
- November 14th 2014 / 11.00 – 11.30 (Control group).

Meeting 6: On the pre test and for post test in seventh meeting.

Date and time:

- November 19th 2014 / 13.12 – 13. 40 (Experimental group)
- November 19th 2014 / 11.08 – 11.30 (Control group)

Meeting 7: On the pre test and for post test in eighth meeting.

Date and time:

- November 21st 2014 / 09.06 – 09.31 (Experimental group)
- November 21st 2014 / 11.00 – 11.24 (Control group)

Meeting 8: On the pre test and for post test in ninth meeting.

Date and time:

- November 26th 2014 / 13.11 – 13. 40 (Experimental group)
- November 26th 2014 / 11.00 – 11.30 (Control group)

3.4. Data and Data Source

The data of this study is the result (scores) from the pre and post test both from the treatment group and control group. The data sources are the 80 students aged 11-12 years old of Labschool Junior High School, divided into two classes. Each class consists of 40 students.

3.5. Variables

There are two variables in this research: dependent variable (Y) and independent variable (X):

- The dependent variable (Y) is the improvement of student's achievement on vocabulary,
- While the independent variable (X) is the technique of vocabulary four square.

3.6. Conceptual definition

Conceptual definition refers to the conclusion of the variables served in this research.

They are:

1. The improvement student's achievement on vocabulary (dependent variable) is the capability of memorizing the word definition and the use of it in making sentence in the proper context.
2. Vocabulary four square technique (independent variable) is the technique proposed in this research to assist the students learning new words through graph organizer. There are four parts divided in one form containing: words, the definition/synonym, image of the word, and self-sentence.

3.7. Operational definition

Variables should be measured in order to gain the value. The explanations on operational definition of variables are as follow:

1. The improvement in student's achievement on vocabulary (dependent variable) is the increase of the score in the post test after having the pre test and the treatment. The achievement is said improved if there is an increase in the mean score of the pre and post test.
2. Vocabulary four square (independent variable) is a form of vocabulary learning through media. No scores will be given, however the students have to fill in all the parts provided in the form.

3.8. Data collection technique

Both the groups shared the same number of meeting. There were eight meetings in which each meeting was planned to be done in 30 minutes or less. This research was conducted during the regular learning activity time to also support the learning material faced by the students. Each of the group has the following steps in collecting the data:

3.8.1. Experimental group:

1. The teacher came into the class without telling the students that they were being examined as the sample research. This was necessary to place the data collection as if in the real teaching nature.
2. The students were told that they should do the test by themselves. Cheating was not tolerated.
3. A pre test on the set of vocabularies taught on the day was given. The students were given eight minutes to complete the pre test.
4. Submission of the pre test.
5. Then, the teacher listed all the vocabularies on the whiteboard and started giving the handout of vocabulary four square.
6. The teacher then gave the explanation on completing the vocabulary four square. In this section, the teacher gave the assistance if the students had difficulties completing the vocabulary four square.

7. After completing the vocabulary four square, then the teacher asked the students to share their work by presenting it on the whiteboard (two to three students came in front of the class)
8. The teacher asked the students to keep their vocabulary four square handout.
9. The post-test was given in the second meeting before the pre test of new vocabularies.
10. The steps were all the same for the second up to eight meetings.

3.8.2. Control group:

1. The teacher came into the class without telling the students that they were being examined as the sample research. This was necessary to place the data collection as if in the real teaching nature.
2. The students were told that they should do the test by themselves. Cheating was not tolerated.
3. A pre test on the set of vocabularies taught on the day was given. The students were given eight minutes to complete the pre test.
4. Submission of the pre test.
5. Then the teacher listed all the vocabularies given on the whiteboard and gave the direct meaning explanation. In this section, the teacher encouraged the students to also make a sentence based on the words given.

6. The post-test was given in the second meeting before the pre test of new vocabularies.
7. The steps were all the same for the second up to eight meetings.

3.9. Research instrument

The research instrument (see appendix) used in this study is pre and post test. The selected vocabularies (the short notice and things vocabularies) were chosen and developed to support the learning program for seven graders in their basic competence as follow (Curriculum 2013 of Ministry of Education):

3.5. *Memahami fungsi sosial, struktur teks, dan unsur kebahasaan pada teks untuk menyatakan dan menanyakan nama dan jumlah binatang, benda, dan bangunan publik yang dekat dengan kehidupan siswa sehari-hari.*

4.6. *Menyusun teks lisan dan tulis untuk menyatakan dan menanyakan nama binatang, benda, dan bangunan publik yang dekat dengan kehidupan siswa sehari-hari, dengan memperhatikan fungsi sosial, struktur teks, dan unsur kebahasaan yang benar dan sesuai konteks.*

3.9. *Memahami fungsi sosial, struktur teks, dan unsur kebahasaan dari teks instruksi (instruction), tanda atau rambu (short notice), tanda peringatan (warning/caution), sesuai dengan konteks penggunaannya.*

4.11 *Menyusun teks instruksi (instruction), tanda atau rambu (short notice), tanda peringatan (warning/caution), lisan dan tulis, sangat pendek dan sederhana, dengan memperhatikan fungsi sosial, struktur teks, dan unsur kebahasaan yang benar dan sesuai konteks.*

3.10. Data analysis technique

The scores from pre and post test taken from both group (experimental and control group) will be analyzed by descriptive analysis and t-test. The descriptive analysis will be presented in the table consists of mean, median, mode, and other elements. T-test is a technique to calculate the data based on the statistical data obtained and to decide whether the hypothesis the researcher formulated can be accepted or rejected. This t-test analysis used Microsoft Excel Data Analysis t-test: two sample for means. The criteria of accepting the hypothesis (significance level at 0.05) test are as follow:

- Accept H_0 if the t value \leq t table
- Reject H_0 if the t value $>$ t table

3.11. Validity and reliability of the research instrument

Validity relates to whether the data can be measured or not with what it is supposed to measure (Wilkinson, 2000). The type of validity used in the research instrument is *construct validity*. Construct Validity is used to ensure that the measure is actually measure what it is intended to measure (i.e. the construct), and not other variables.. The researcher can examine the items and decide what that specific item is intended to measure – that is the vocabulary used to learn short notices and things in houses.

However, it is also important to see whether the test is valid or not by using Pearson formula with the following formula:

$$r_{xy} = \frac{n(\sum xy) - (\sum x)(\sum y)}{\sqrt{(\sum x^2) - (\sum x)^2/n} \sqrt{(\sum y^2) - (\sum y)^2/n}}$$

where:

r_{xy} = the correlation coefficient of test number

N = the sum of subjects

X = score per item

Y = total score

By using the value table Product Moment, the test is considered valid if the r value (r_{xy}) is bigger than r table. In this research, since the sum of the sample is 40 and the test itself contains of 40 numbers, therefore the r table is 0.312. After calculating the pilot test data, it was found that the r value (range from 0.525 up to 0.907) is bigger than r table (0.312), therefore the instrument is considered valid.

On the other hand, reliability is related to the consistency of measure (Wilkinson, 2000). By using Alpha Cronbach calculation, the test is said reliable if the Alpha Cronbach score is bigger than r table (0.312).

After calculating the pilot value (0.981) is bigger than r table (0.312). Therefore, the instrument is considered reliable. The formula to calculate the reliability is:

$$CA = \left[\frac{k}{k-1} \right] \left[1 - \frac{\sigma_b^2}{\sigma_t^2} \right]$$

where:

CA = Alpha Cronbach's coefficient

K = total item

Sigma b squared = item variance

Sigma t squared = total variance

CHAPTER IV

FINDING AND DISCUSSION

4.1. Data description

The data description is carried out to obtain the notion about the data characteristics taken from the pre and post test as the data collection. The data concerned in this study is the scores both from the pre and post test whether or not the vocabulary four square improves the student's vocabulary achievement. Scoring was given with the formula: $(\text{True answer} \times 100) : 40$. The data description is presented in the descriptive analysis. The results of the data collection are as follow:

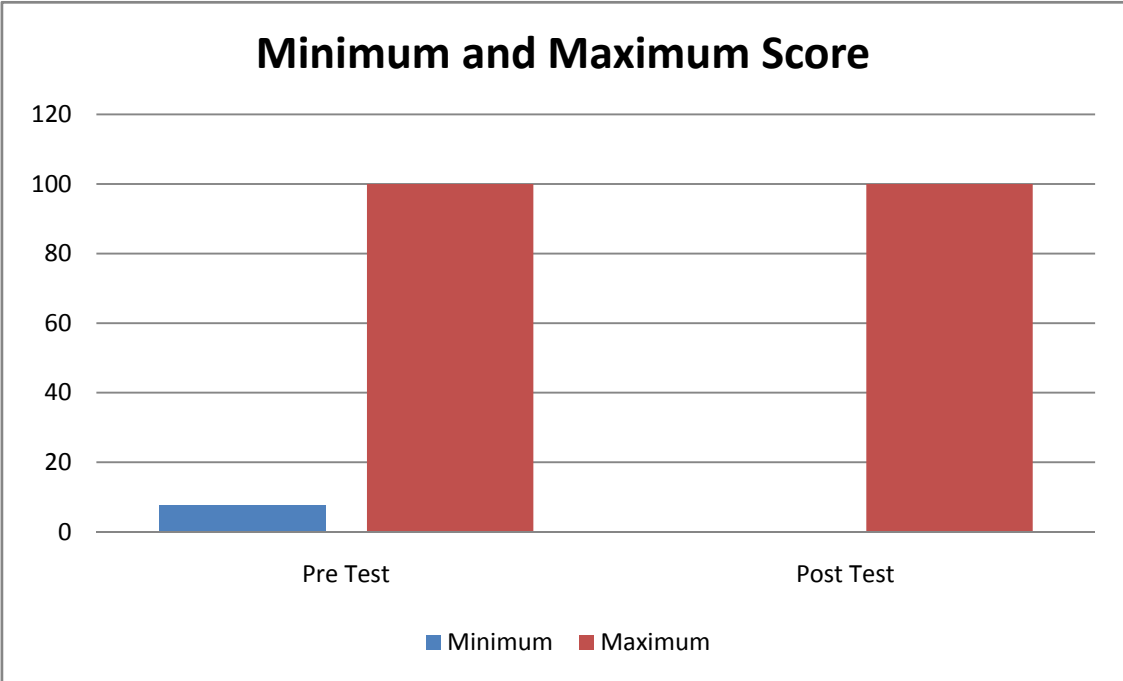
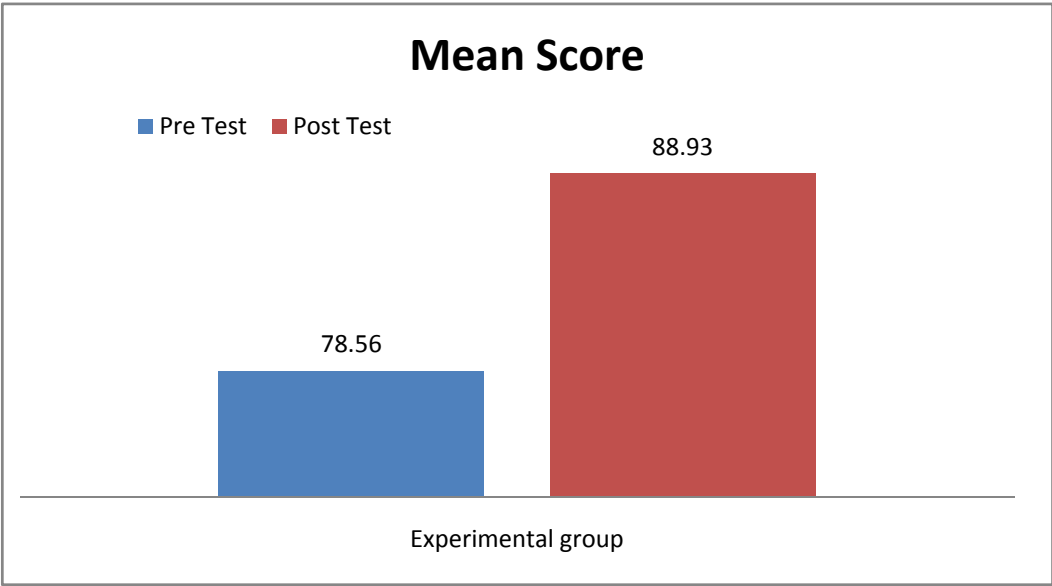
4.1.1. Experimental group score

| Student | Pre test (of the 40 questions) | Score | Post test (of the 40 questions) | Score |
|---------|-----------------------------------|-------|------------------------------------|-------|
|---------|-----------------------------------|-------|------------------------------------|-------|

| | | | | |
|-----|----|-----|----|-----|
| 1. | 33 | 83 | 34 | 85 |
| 2. | 23 | 58 | 40 | 100 |
| 3. | 34 | 85 | 40 | 100 |
| 4. | 33 | 83 | 40 | 100 |
| 5. | 38 | 95 | 40 | 100 |
| 6. | 38 | 95 | 40 | 100 |
| 7. | 38 | 95 | 34 | 85 |
| 8. | 36 | 90 | 40 | 100 |
| 9. | 23 | 58 | 38 | 95 |
| 10. | 38 | 95 | 40 | 100 |
| 11. | 27 | 68 | 40 | 100 |
| 12. | 40 | 100 | 40 | 100 |
| 13. | 33 | 83 | 39 | 98 |
| 14. | 40 | 100 | 40 | 100 |
| 15. | 36 | 90 | 40 | 100 |
| 16. | 34 | 85 | 33 | 83 |
| 17. | 28 | 70 | 40 | 100 |
| 18. | 32 | 80 | 33 | 83 |
| 19. | 39 | 98 | 40 | 100 |
| 20. | 40 | 100 | 0 | 0 |
| 21. | 38 | 95 | 16 | 40 |
| 22. | 39 | 98 | 38 | 95 |
| 23. | 40 | 100 | 23 | 58 |
| 24. | 38 | 95 | 40 | 100 |
| 25. | 38 | 95 | 40 | 100 |
| 26. | 40 | 100 | 0 | 0 |
| 27. | 36 | 90 | 32 | 80 |
| 28. | 40 | 100 | 39 | 98 |
| 29. | 39 | 98 | 40 | 100 |
| 30. | 35 | 88 | 40 | 100 |
| 31. | 29 | 73 | 38 | 95 |
| 32. | 33 | 83 | 34 | 85 |
| 33. | 3 | 8 | 40 | 100 |
| 34. | 4 | 10 | 40 | 100 |
| 35. | 23 | 58 | 40 | 100 |
| 36. | 18 | 45 | 40 | 100 |
| 37. | 26 | 65 | 40 | 100 |

| | | | | |
|-----|----|----|----|-----|
| 38. | 22 | 55 | 34 | 85 |
| 39. | 12 | 30 | 40 | 100 |
| 40. | 21 | 53 | 38 | 95 |

The following graphis the data in descriptive statistics on the experimental group:



| <i>PRE TEST ON EXPERIMENTAL GROUP</i> | | <i>POST TEST ON EXPERIMENTAL GROUP</i> | |
|---------------------------------------|--------------|--|--------------|
| Mean | 78.5625 | Mean | 88.9375 |
| Standard Error | 3.802925135 | Standard Error | 3.800817536 |
| Median | 86.25 | Median | 100 |
| Mode | 95 | Mode | 100 |
| Standard Deviation | 24.0518104 | Standard Deviation | 24.03848077 |
| Sample Variance | 578.4895833 | Sample Variance | 577.8485577 |
| Kurtosis | 1.944583397 | Kurtosis | 8.597297384 |
| Skewness | -1.513948991 | Skewness | -2.960178508 |
| Range | 92.5 | Range | 100 |
| Minimum | 7.5 | Minimum | 0 |
| Maximum | 100 | Maximum | 100 |
| Sum | 3142.5 | Sum | 3557.5 |
| Count | 40 | Count | 40 |

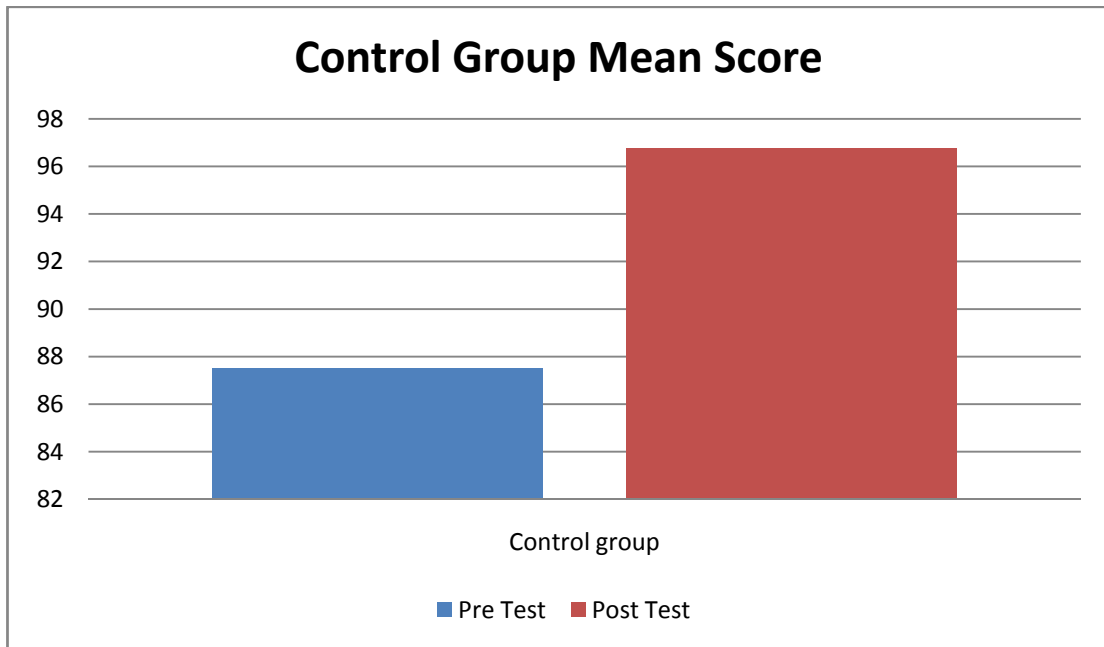
From the data obtained above, it can be stated that the highest score during the pre test session on the experimental group is 100 and the lowest score is 7.5. The average score is 78.56, the standard deviation is 24.05, the mode is 95, and the median is 86.25. On the other hand, during the post test session, there is a difference 10.37 point in average score, which is increased to 88.93, with the highest score is 100 and minimum score is 0. The standard deviation is 24.03, the mode is 100, and the median is 100. The score finding has showed that the vocabulary four square technique did have effect on student's vocabulary improvement, when it was tested on both pre and post test. The data interpretation assumes that the students could remember and keep the information in mind when they were encountered with the technique. Therefore, as a result, they could easily remember the concept and define the words in proper meaning.

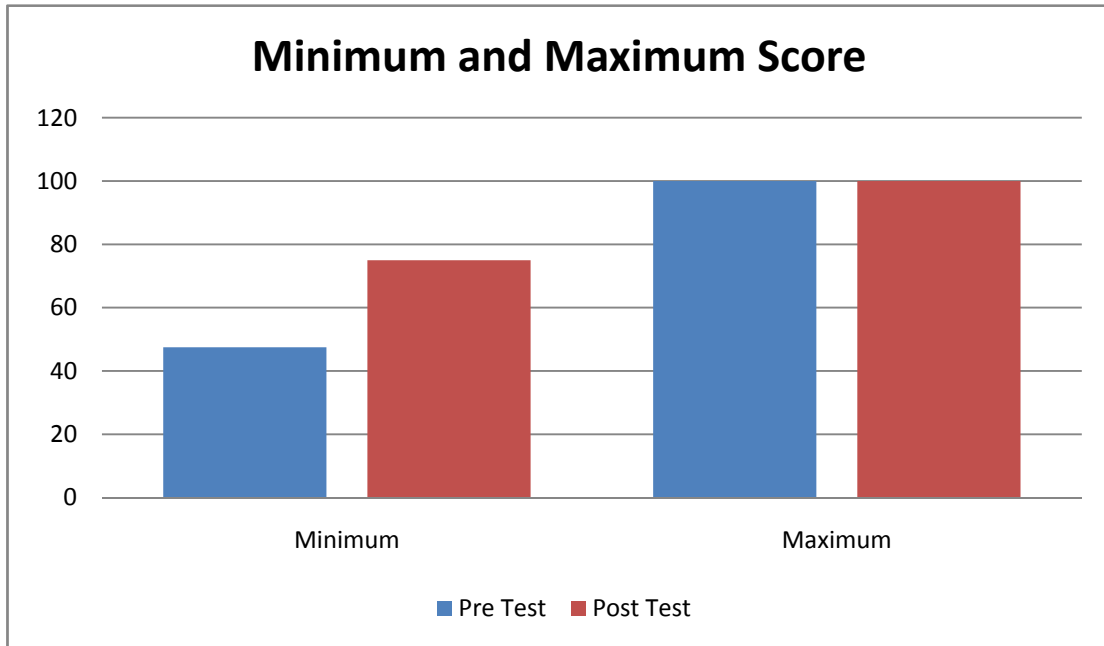
4.1.2. Control group score

| Student | Pre test (of the 40 questions) | Score | Post test (of the 40 questions) | Score |
|----------------|---|--------------|--|--------------|
| 1. | 37 | 93 | 39 | 98 |
| 2. | 30 | 75 | 35 | 88 |
| 3. | 40 | 100 | 35 | 88 |
| 4. | 34 | 85 | 38 | 95 |
| 5. | 38 | 95 | 40 | 100 |
| 6. | 33 | 83 | 40 | 100 |
| 7. | 34 | 85 | 36 | 90 |
| 8. | 26 | 65 | 39 | 98 |
| 9. | 38 | 95 | 38 | 95 |
| 10. | 40 | 100 | 38 | 95 |
| 11. | 34 | 85 | 40 | 100 |
| 12. | 30 | 75 | 40 | 100 |
| 13. | 38 | 95 | 30 | 75 |
| 14. | 28 | 70 | 40 | 100 |
| 15. | 38 | 95 | 39 | 98 |
| 16. | 36 | 90 | 40 | 100 |
| 17. | 33 | 83 | 40 | 100 |
| 18. | 33 | 83 | 38 | 95 |
| 19. | 38 | 95 | 40 | 100 |
| 20. | 36 | 90 | 40 | 100 |
| 21. | 38 | 95 | 39 | 98 |
| 22. | 31 | 78 | 40 | 100 |
| 23. | 31 | 78 | 40 | 100 |
| 24. | 38 | 95 | 40 | 100 |
| 25. | 38 | 95 | 40 | 100 |
| 26. | 35 | 88 | 38 | 95 |
| 27. | 40 | 75 | 40 | 100 |
| 28. | 34 | 100 | 40 | 100 |
| 29. | 38 | 85 | 35 | 88 |
| 30. | 38 | 95 | 40 | 100 |
| 31. | 32 | 95 | 37 | 93 |
| 32. | 40 | 80 | 40 | 100 |
| 33. | 34 | 100 | 40 | 100 |
| 34. | 40 | 85 | 40 | 100 |
| 35. | 34 | 100 | 40 | 100 |

| | | | | |
|-----|----|----|----|-----|
| 36. | 38 | 95 | 40 | 100 |
| 37. | 19 | 48 | 39 | 98 |
| 38. | 38 | 95 | 40 | 100 |
| 39. | 36 | 90 | 35 | 88 |
| 40. | 38 | 95 | 40 | 100 |

The following graphs are the data in descriptive statistics on the control group:





| <i>PRE TEST ON CONTROL GROUP</i> | | <i>POST TEST ON CONTROL GROUP</i> | |
|----------------------------------|-------------|-----------------------------------|-------------|
| Mean | 87.5 | Mean | 96.75 |
| Standard Error | 1.754116039 | Standard Error | 0.854850414 |
| Median | 90 | Median | 100 |
| Mode | 95 | Mode | 100 |
| Standard Deviation | 11.09400392 | Standard Deviation | 5.406548736 |
| Sample Variance | 123.0769231 | Sample Variance | 29.23076923 |
| Kurtosis | 3.01848662 | Kurtosis | 5.788667908 |
| Skewness | -1.46401393 | Skewness | -2.23291586 |
| Range | 52.5 | Range | 25 |
| Minimum | 47.5 | Minimum | 75 |
| Maximum | 100 | Maximum | 100 |
| Sum | 3500 | Sum | 3870 |
| Count | 40 | Count | 40 |

From the data obtained above, it can be stated that the highest score during the pre test session on control group is 100 and the lowest score is 47.5. The average score is 87.50, the standard deviation is 11.095, the mode is 95, and the median is 90. On the other hand, during the post test session, there is a difference 9.25 point in average

score, which is increased to 96.75, with the highest score is 100 and minimum score is 75. The standard deviation is 5.40, the mode is 100, and the median is 100.

Interestingly, without the specific technique, the control group gained the highest achievement than the experimental group. Perhaps it was because that the direct explanation was proper to teach the words in isolated form and the students had already achieved the concept of the words given. However, this research only examined the intervene on experimental group, whereas the control group was served as the comparative subject.

4.2. Hypothesis test result

The afterward step is to test the hypothesis whether or not the hypothesis formulated in this research is accepted. The hypothesis test used t-test with the data taken from the descriptive analysis. Since this study concerned with the improvement of vocabulary by using vocabulary four square, therefore the researcher presents the t-test result of the experimental group as follow:

t-Test: Paired Two Sample for Means

| | <i>PRE</i> | <i>POST</i> |
|------------------------|------------|-------------|
| Mean | 78.5625 | 88.9375 |
| Variance | 578.4896 | 577.8486 |
| Observations | 40 | 40 |
| Pearson Correlation | -0.28626 | |
| Hypothesized Mean Diff | 0 | |
| df | 39 | |
| t Stat | -1.70142 | |
| P(T<=t) one-tail | 0.048413 | |
| t Critical one-tail | 1.684875 | |
| P(T<=t) two-tail | 0.096826 | |
| t Critical two-tail | 2.022691 | |

This research hypothesis (H_0) “There is a significant improvement on student’s vocabulary mastery.” is *accepted*. This is proved that the *t value* $\leq t$ *table* with the significance level 0.05, that is:

$$-1.70 \leq 1.68$$

The significant result of this vocabulary four square technique is that it can assist the students in learning new words. It is similar to the findings by Laufer (1997) and Sarah Sippel (2010) that when the teacher gives vocabulary list based on isolation and minimal context, it appears to have more improvement on student’s word recognition rather than giving the vocabulary list with more information.

In addition, the vocabulary four square also assists students to organize their thinking when learning new words. The graphic organizers have been used to help students organizing their thinking to reach the purpose of independently demonstrating their comprehension of new words (Brand, 2004) Therefore, the students can link the words with their prior experience in the vocabulary technique activity.

4.3. Research limitation

Although this research has gained the result as has been stated earlier, there are also few weaknesses appear in this study. It is better to conduct a research based on random sampling rather than the convenience sampling. The type of convenience

sampling may not generalize this result for the whole population of junior high school students, even if the result of this study can be seen alone for students in Labschool Junior High School. In addition, the characteristics of the students found in the school shows that they are actually familiar enough with the English as a foreign language and most of them have a good background of learning English locally or internationally.

When developing the research instrument, the researcher used the assessment proposed by Brwon (2003) on vocabulary matching task and consulted the Curriculum 2013 for the assessment content. The researcher himself also has seek advice from the senior English teachers and colleague but the research instrument development does not guarantee that it is met the standardized test criteria. The research instrument development was done because the researcher had the boundary to access the reference. Therefore, it would be better if the research instrument used in the future research is not only based on standardized test but also to support the learning program in school.

CHAPTER V

CONCLUSION

5.1. Conclusion

Now with the standing of the result, it was found that the vocabulary four square technique can assist the students learning the new words. There is an improvement between the pre and the post test score after the giving of the treatment, even though there are few students who had the reducing score in the post test but in general, the means score of experimental group increased in the pre and post test. The control group, also, although it was not served the specific technique, has the improvement in both the pre and post test by using conventional approach.

The finding proves that the vocabulary four square technique retains the information in student's mind, aside from the fact that other factors may also contribute. Additionally, this study focused on the achievement measured by the obtained scores before and after the treatment, let alone other factors such as motivation and social background because they are not the field the researcher examined.

5.2. Implication

This study shows that the usefulness of vocabulary four square technique can help the students learning the new words. The researchers have found that during the activity,

most of the students were actively engaged especially when they had to draw the words they encountered. This treatment is needed because encouraging the word consciousness is essential when the students learn the word concept (Michael Graves, 2006). Therefore, it is recommended to consider the use of this technique for junior high school students by the teacher if the teacher should teach the vocabulary explicitly. Any teacher wishes to implement this technique should be aware of the availability and clear explanation on filling the vocabulary four square form.

In addition, this research can be the reference for the future researcher when conducting certain technique to teach the vocabulary explicitly. There is a need in improving vocabulary instruction since the findings by Helena Fariska (2010) found that the vocabulary teaching is overlapped with another subject and the students may not learn words properly. In addition, teaching the vocabulary with the concern also from the student's background and learning capability can add more information and reference for better teaching development, especially in vocabulary area.

5.3. Suggestion

The four square can only assist students in comprehending the words in minimal, isolated context and therefore it only offers a shallow level of understanding of the words. In addition, the students may find difficulties in creating sentence because they may not have enough syntactic knowledge and how to present the words in minimal context properly. It was found that during the research, many of the students fail to create an appropriate sentence at first because they misunderstand the concept

of the word class (e.g. noun becomes verb; vice versa). Therefore, a more direct explanation should also reinforce toward the use of the technique.

Moreover, this study only began to look at the mastery of the vocabulary achievement measured by the scores in the pre and post test alone. However, some of unanswered questions have been exposed when conducting this study such as whether or not this technique retains the information for a long time. It is reasonable to infer that the students can memorize the words once they are being served with the specific technique but to what extent does the student memorize the word? Can it be shown only with the test rather than any other aspects such as performance?

This study also concerned with the technique used for the junior high school students, however what would be the result if the samples were different in terms of the level and student's background? And the final question is by using this technique, did the student really feel motivated when the learning process had begun? What were their thinking toward the technique? The researcher thinks that it is also important to seek the student's perception since this technique will be used for the sake of students' cognitive.

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