

CHAPTER III

RESEARCH METHODOLOGY

This chapter presents the research methodology in order to answer the research questions. It includes the research design, hypothesis, variables, population and sample, data collection, and data analysis.

3.1. Research Design

This research is aquasi-experimental study in which it compares the result of pre-test and post-test. Frankel et al. (2012, p. 275) states that quasi experimental design does not include the use of random assignments. The research subjects are already in intact groups; therefore, there is no random sampling. This design involves two groups which are devided into experimental and control group. The experimental group is given the treatment which includes the activities of using grammar and translation activities in enhancing reading comprehension, meanwhile the control group was taught in traditional methods which were discussion and one-way communication.

Malik and Hamied (2014) explain quasi-experimental research as the classic controlled experimental design except that the subjects cannot be randomly assigned to either the experimental or control group or the researcher cannot control which group will get the treatment. An independent variable is identified but not manipulated by the researcher and the effects of the independent variable are measured. However, they add, “quasi experiments are designed to maximize internal validity (confidence in cause-and effect conclusions) despite being unable to randomly assign. Quasi research includes a manipulated independent variable but lacks of important controls (e.g. random assignment).” (p. 55)

The matching-only design is used in this research. According to Frankel et al (2012), “The researcher still matches the subject in the experimental and control group on certain variables, but he or she has no assurance that they are equivalent to each other.” Thus this research used the matching-Only Pre-test Posttest Control Group Design where the experimental and control group are given the

relatively same subject but the implementation are different. The design is shown in figure below.

Table 3.1
The Matching-Only Pretest-Posttest Control Group Design

Treatment group	<i>M</i>	<i>O</i>	<i>X</i>	<i>O</i>
Control Group	<i>M</i>	<i>O</i>	<i>C</i>	<i>O</i>

Note:

M : matched subject

X : treatment

Later, the experimental group is given treatments which are reading activities that include translating and grammar learning.

3.2. Hypotheses

A hypothesis is a prediction of the possible outcomes of a study (Frankel et al, 2012, p.83). Null hypothesis and alternative hypothesis are used in this study as follows:

Ho: The grammar and translating method cannot increase students' reading skill.

Ha: The grammar and translating method can increase students' reading skill.

3.3 Variable

In this research, the independent variable is the grammar-translation method which is the major variable investigated, while the dependent variable was the students' reading skills which was measured through score to determine the effect of the independent variable.

3.4. Population and Sample

The population was the students of grade XI in one senior high school in Bogor. The samples of this study are all students who are currently attending two classes as the research subjects. They are divided into experimental group (XI IIS

3) and control group (XI IIS 1). They were participated in the pretest to know their initial reading ability. After pre-test, the experimental group was given treatment. In the end of the study the experimental and control group are given post-test. The questionnaire was administered to experimental group to find out how they respond to the study and the evaluation of understanding.

3.5. Research Instruments

3.5.1. Tests

The researcher conducted two tests which were pre-test and post-tests. The pre-test is conducted to measure students' knowledge towards the material given which is explanation text. Explanation text was chosen by the researcher after considering the type of text that later is expected to be understood by the students according to the basic competence. Meanwhile, the post-test is conducted to examine whether the use of grammar-translation method is effective in improving students' reading skill. Both pre-test and post-test were presented in a form of multiple choices which includes 18 questions. The pre-test and post-test can be seen in Appendix 1.

3.5.2. Questionnaire

The questionnaire was administered to the students after the post-test is given. It consists of seven questions. It was aimed to find out students' perception toward the method itself (grammar and translation) and how the method can help them understand the material. The questionnaire used *Likert scale* with typical five-level Likert item format as follows:

1. Strongly disagree (sangat tidak setuju)
2. Disagree (tidak setuju)
3. Neither agree or disagree (ragu-ragu)
4. Agree (setuju)
5. Strongly agree (sangat setuju)

Table 3.2
The Example of Likert Scale in a Form of Checklist

1. The ubiquitous Likert item

<p>45. Please tick one box for each statement below to show how much you agree or disagree with it.</p> <p style="text-align: center;"><i>PLEASE TICK ONE BOX ON EACH LINE</i></p>					
		Agree strongly	Agree	Neither agree nor disagree	Disagree strongly
[TradVals]	a. Young people today don't have enough respect for traditional British values.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

(Johns, 2010, p. 1)

The questionnaire for this research was coping the students' perception towards the reading material, their preferences in comprehending unfamiliar texts/vocabulary, and also the use of translating activity in order to grasp the whole meaning of the reading material. The questionnaire can be seen on Appendix 1.

3.6. Research Procedures

3.6.1. Data Collection

To gather the data, the researcher employed two instruments. The instruments are tests and questionnaire. Before the instrument is conducted, the validity and reliability of test item was calculated.

3.6.1. 1. Validity

The instruments were tried-out to the XI MIA 1 which contains 41 students to find out the validity of the test items. Validity test was aimed to find

out whether the test instrument is appropriate to be used in this research or not. The calculation was using Microsoft Excel in which the formulation is as follows:

The Pearson Product Moment Correlation formula

$$r_{xy} = \frac{N \sum XY - (\sum X)(\sum Y)}{\sqrt{\{N \sum X^2 - (\sum X)^2\} \{N \sum Y^2 - (\sum Y)^2\}}}$$

Note:

r_{xy} : coefficient correlation between X and Y

X : score of each item for every student

Y : total scores of every student

N : total number of students

Meanwhile, the category of validity referred to the classification of item validity which is stated by Guilford (1956)

Table 3.3
Criteria of Validity

$r_{xy} < 0.20$	The validity of item is very low
$0.20 \leq r_{xy} < 0.40$	The validity of item is low
$0.40 \leq r_{xy} < 0.60$	The validity of item is moderate
$0.60 \leq r_{xy} < 0.80$	The validity of item is high
$r_{xy} \geq 0.80$	The validity of item is very high

(as cited in Cancer, 2013, p. 4)

3.6.1.2. Reliability

The internal consistency reliability of the instrument was calculated by using Split-Half Technique. This method is done if the teacher or the researcher does not want to administer the test instrument more than once, which later will be elaborated as:

Split half method is reliability testing method which is done by dividing final test item into two half, then correlating the total scores of them. The items on the test have to measure the same indicator; therefore

the correlation between them must be high. In the end, the total test item has to be in even number.” (Purwanto, 2009, p. 160).

This table below is the criteria of reliability which is used to determine the reliability of the test item. The reliability correlation coefficient is adapted from the criteria from Guilford (1956)

Table 3.4
Criteria of Reliability

$0.80 < r \leq 1.00$	very high reliability
$0.60 < r \leq 0.80$	high reliability
$0.40 < r \leq 0.60$	moderate reliability
$0.20 < r \leq 0.40$	low reliability
$0.00 < r \leq 0.20$	very low reliability

(as cited in Cancer, 2013, p. 4)

3.6.1.3 Pre-test

Pre-test is administered in order to find out the student's initial reading skill. After the validity and reliability of the instrument is analyzed, the researcher will attempt to give the student's from two sample class the pre-test. The score from this test is considered as the starting point and become the basic in comparing the final score and determining which hypothesis is proven.

3.6.1.4. Treatment

The researcher attempted to conduct a full-length reading session in the experimental class. The range time that the implementation of treatment which is demanded to be done is four weeks which consist of four to five meeting. The elaboration of the materials can be seen in the Appendix 4.

Classroom Activities for Experimental Group

First Meeting

The researcher gave the pretest which measures the students' initial ability in reading. The test was conducted in approximately one hour to give the students opportunity to answer all the questions on the test.

Second Meeting

Skill focus	: Reading
Level	: Senior High School
Class	: XI
Time	: 2x45 minutes
Material	: Explanation Text entitled “Volcano Eruption”

Presentation

- Pre reading activities

Teacher opened the class and delivered the objective of today’s lesson. After that, the teacher gave the students several questions which introduced the skill and topic that later would be presented. The questions were related to the content of the text.

- Whilst reading activities

Teacher gave the students chunk of the text. For example, teacher showed the sentence “when the magma chamber has been completely filled, the pressure is getting higher”. After showing the chunk from the text, the teacher guided the students to translate the sentence together and discussing the new vocabulary. In the end, the teacher asked the student what the topic that is possibly discussed in the text is. The topic itself was volcano eruption and in this section the teacher gave the students the whole text. While giving the chance for the students to read the text, the teacher assured the students to ask whether there were some unknown words or not while moved around to help the student translate it and relate it to the topic presented.

- Post reading activities

Teacher gave the students several questions regarding to the text. According to Ismail & Al-Nafisah (2009), the first question was “right here” or direct questions. These are the simplest type whose answer is stated directly in the passage. The second is the inference questions whose answers are not explicitly stated in the passage, students have to make inferences based on their understanding of the

passage. The third type is the application questions that require students to relate the passage to their own experiences. (p.12)

Third Meeting

The researcher gave the students another treatment which would be focusing on comprehending more vocabularies that are presented on the text. The detail of the teaching activities can be seen below

Skill focus : Reading
 Level : Senior High School
 Class : XI
 Time : 2x45 minutes
 Material : Explanation Texts entitled “How Rainbow is Formed” and “Flood”

Presentation

- Pre reading activities

Teacher opened the class and delivered the objective of today’s lesson. After that, the teacher gave the students several questions which introduce the skill and topic that later will be presented. The questions are related to the content of the text.

Whilst reading activities

Teacher asked the students to divide the class into eight groups. After that, the teacher gave the two texts to the students. Students were asked to read the text carefully. In this meeting the teacher was no longer assuring that the students could ask the teacher to translate the meaning of any unknown words. Instead, the students were asked to write as many unknown words as possible. They did not directly translate them. On the whiteboard, the teacher drew 8 boxes. On each boxes, the students from each groups wrote the unknown words that they had collected. After the 8 boxes had been filled with the words, the teacher asked each group to translate the words which were written by other groups. For example, group one would translate the words from group four (the fourth box) and so on.

- Post reading activities

Teacher asked and guided the students to read the text once again after they knew the meaning of several unknown words.

Fourth Meeting

The researcher gave the students another treatment which would be focusing on relating the explanation text and its language features which is simple present tense. The detail of the teaching activities can be seen below.

Skill focus : Reading and Writing

Level : Senior High School

Class : XI

Time : 2x45 minutes

Material : Explanation Texts entitled “Volcano Eruption”, “How Earthquakes Happen”, and “How Seasons Happen”

Presentation

- Pre reading activities

Teacher opened the class and delivered the objective of today’s lesson. After that, the teacher gave the students several questions which reviewed students’ initial knowledge in simple present tense. Teacher gave several examples which included the way a sentence presented in Indonesia and English by using simple present tense. For example “I am a student.” and the teacher would translate the sentence into “Saya adalah seorang siswa.”.

- Whilst reading activities

The teacher gave the students several explanation texts. Students were asked to read the text carefully. After the students read the text, the teacher wrote some formulas of simple present tense on the white board. As the students were engaged with the explanation of this tense, they were asked to look at the text

again and highlight the sentence which has the similar formula. The teacher was checking students' work in the process.

- Post reading activities

The students were asked to write five sentences in simple present tense form. The teacher later asked the students to present their work or correct their work individually.

Fifth Meeting

The researcher gave post-test which measures the students' ability in reading after given the treatment. The test was conducted in approximately one hour to give the students opportunity to answer all the questions on the test. After conducting the post-test, the teacher gave the students questionnaires in order to get the data in knowing students' responses towards the implementation of grammar and translation in teaching method.

Classroom Activities for Control Group

The researcher gave the control group the reading activities in class which will put little emphasize in the grammar and translation in the teaching method. The description of the teaching activities can be seen below:

First Meeting

The researcher gave pretest which measures the students' initial ability in reading. The test was conducted in approximately one hour to give the students opportunity to answer all the questions on the test.

Second Meeting

The researcher gave the students reading activity with the same material but different approach or method from experimental group. The detail of the teaching activities can be seen below.

Skill focus : Reading

Level : Senior High School
 Class : XI
 Time : 2x45 minutes
 Material : Explanation Text entitled “Volcano Eruption”

Presentation

- Pre reading activities

Teacher opened the class and delivered the objective of today’s lesson. After that, the teacher gave the students several questions which introduce the skill and topic that later will be presented. The questions were related to the content of the text.

- Whilst reading activities

Teacher gave the students chunk of the text. For example, teacher showed the sentence “when the magma chamber has been completely filled, the pressure is getting higher”. After showing the chunk from the text, the teacher asked the student what the topic that is possibly discussed in the text is. The topic itself was volcano eruption and in this section the teacher gave the students the whole text. The students were asked to read the text carefully.

- Post reading activities

Teacher gave the students several questions regarding to the text. According to Ismail & Al-Nafisah (2009), the first question is “right here” or direct questions. These are the simplest type whose answer is stated directly in the passage. The second is the inference questions whose answers are not explicitly stated in the passage, students have to make inferences based on their understanding of the passage. The third type is the application questions that require students to relate the passage to their own experiences. (p.12)

Third Meeting

The researcher gave the students another reading activity with another material. The detail of the teaching activities can be seen below.

Skill focus : Reading
 Level : Senior High School
 Class : XI
 Time : 2x45 minutes

Material : Explanation Texts entitled “How Rainbow is Formed” and “Flood”

Presentation

- Pre reading activities

Teacher opened the class and delivered the objective of today’s lesson. After that, the teacher gave the students several questions which introduced the skill and topic that later would be presented. The questions were related to the content of the text.

- Whilst reading activities

Teacher divided the class into two big groups. After that, the teacher gave the two texts to each group. Students were asked to read the text carefully. After the students read the text, the teacher guided the students to discuss the content of the text. The teacher wrote the title from both the text on the whiteboard and after that the teacher called some students to mention the answer of the same questions. The questions were mainly about things that cause the phenomenon happens and the impacts from the phenomenon.

- Post reading activities

Teacher guided the students to review what they have learned from this meeting.

Fourth Meeting

The researcher gave post-test which measures the students’ ability in reading after completing all the reading activities. The test was conducted in approximately one hour to give the students opportunity to answer all the questions on the test.

3.6.1.5. Post-test

This test was conducted after all the treatment is given to the students. This test was using the same instrument as the pre-test. The score from this test will be analyzed and interpreted to determine whether the treatment of grammar and translation in teaching method is increasing student’s reading skill.

3.7. Data Analysis

The researcher attempted to answer the research question by analyzing the data from pre-test and post-test and from questionnaire. The data from pre-test are the data to measure students' ability in reading skill before the treatment is given. Meanwhile, the post-test data are the data to measure student's ability after the treatment is given. The post-test score from experimental group were also analyzed to find out the answer of the first research question, which is "Can grammar and translating in teaching English increase senior high school students' reading skill?".

From the calculation used it can be determined which hypothesis is accepted. Finally, from the post-test data calculation, the grammar and translation in teaching method is determined whether it can increase students' reading skill. If the H_0 is accepted, it means that the grammar and translation in teaching cannot increase students' reading skill; the method cannot contribute to the students' ability in understanding the explanation text. In contrary, if H_0 is rejected, it means that the grammar and translation in teaching can increase students' reading skill or in other words the method can contribute to the students' ability to understand the written material given.

Meanwhile, the data from the questionnaire were transcribed, identified and categorized to interpret the student's responses towards the use of grammar and translation in teaching method. The result of questionnaires was calculated in percentage below.

$$P = \frac{F \times 100}{N}$$

Note:

P = percentage

F = frequency

N = response

100 = constant