CHAPTER III

RESEARCH METHOD

This part of the study deals with research methodology which is designed as follows:

A. Approach and Research Design

The basic of a study was held to find out the answer from remanded question to ebserved subject. Therefore, it was important for researcher to determine a proper strategy to answer and reach the research purpose. The most popular approaches were qualitative approach and quantitative approach. According to James Dean Brown and Theodore S.Rodgers, both stated that qualitative research approach was typically the label for nonnumerical research and quantitative research approach is a numerical research or there was conversion data in the research. In other side, based on Grotjahn's analysis that experimental or non-experimental was data collection method, qualitative or quantitative was type of data that resulted, statistical or interpretive was type of analysis conducted on the data.¹ This study analyzed how extend is encoding technique improve students' ability in memorizing 16 tenses in form of score, so that the researcher used quantitative method that concern on experimental approach. Donald Ary stated that "experimental research involved a study of the effect of systematic manipulation of one variable(s) on another variable".²

¹ James Dean Brown -Theodore.S Rodgers, *Doing Second Language Research* (New York: Oxford University Press, 2003), 15.

² Donald Ary, et al., *Introduction to Research in Education*, *Part Five: Research Method: Eight Edision*, (Canada: Wadsworth, Cengage Learning, 2010), 316.

The research design used in this study was experimental design. Using experimental design caused when it was possible to randomize individuals or groups to treatment and control groups.³ Because this study collected data in students' ability in memorizing 16 tenses in form of scores, the data of the test was numeric. At the end of treatment, both experimental and control group received a post-test and the results of two tests were compared to find the significant differences between the experimental group and the control group. The following was the design of the true experimental research.

Group	Pre-test	Independent Variable	Post-test
D class	Z ₁	Е	Z_2
F class	Z ₁	-	Z ₂

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Note:

D class : experimental group

F class : control group

Z₁ : pre-test

Z₂ : post-test

E : encoding technique implementation

Seeing the title of the study was "The Implementation of Encoding Technique in Teaching Grammar to Improve Student's Ability in Memorizing 16 Tenses in Second Grade of SMPN 4 Surabaya, and

³ Howard White, Shagun Sabarwal, *Quasi-Experimental Design and Methods*, (New York: UNICEF Office of Research, 2014), 2.

concerning the research aims, the questions and the hypotheses in this study, the variables were:

- a. Variable X (Independent variable) is the use of encoding as a technique in teaching grammar.
- b. Variable Y (Dependent variable) is student's ability in memorizing 16 tenses.

B. Setting of Research

The setting of this study was in second grade 2015-2016 of SMPN 4 Surabaya around May. In second grade, there were seven classes; 8A – 8G. The researcher took two classes as the sample, three classes; 8A – 8C were not taken because there were some inclusy students in those classes. Among 8D, 8E, 8F, 8G, researcher took two classes that have equal ability according to teacher's judgement in form of English final exam score. Score data from English teacher showed that 8D and 8F have equal ability in English subject. The two equal classes became a control group and an experimental group; the experimental group was taught through encoding 16 tenses, and the control group was the group that did not receive the experimental treatment. Both of them were taught the same materials.

The location of SMPN 4 Surabaya was on Tanjung Anom street 12 Surabaya. Phone number was (031) 5341431 and the website was on www.smpn4sby.sch.id. In addition, the time setting consists of allocation time for pretest, treatment that given to examine the treatment effect and

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post test. This study was held in six times meeting. Each meeting had duration 2x40 minutes. Day and time adjust with the schedule of English subject in each class.

C. Subject of Research

The population of this study was second grade at SMPN 4 Surabaya. The second grade consist 260 students (seven classes), but in taking the sample researcher eliminated 3 classes included inclusy students amounts 120 students. 2 of 4 classes were chosen by looking at English score from the English teacher (teacher's judgment). After that, the sample of this study amounts 82 students from 41 students in each class. Then, from the population, the reasearcher took two classes which equal in English score as sample which divided into two groups (control group and experimental group) to examine the treatment effects. A class would be an experimental group and the other was as control group. Researcher hoped the chosen sample can be representative sample for all second grade students in SMPN 4 Surabaya in observing students' memorizing ability of 16 tenses.

D. Research Procedure

1. Pre-test

After getting two classes, it be divided into two groups; one as experiment class is taught by implementing encoding technique in teaching grammar to improve students' ability in memorizing 16 tenses and one class as control group which accepting no treatment in teaching grammar for memorizing 16 tenses. Then, the researcher held pre-test in control and experimental group. The purpose of this test was to know students ability in memorizing 16 tenses before treatment and make the same beginning condition between control and experimental group.

2. Treatment implementation

After doing pre-test in both control and experimental group, treatment implementation held by giving treatment through encoding technique of 16 tenses. The technique only held to experimental group, control group would accept no treatment at all.

a. Experimental group

The experimental group got the treatment of encoding technique in learning grammar especially in memorizing 16 tenses in kind of verbal sentences. The technique steps explained as follow: 1) Teacher explains how the way to encode 16 tenses; 2) Involved students to answer some question related to tenses; 3) Ask students to arrange the tenses pattern and sentence as example from each pattern.

b. Control group

The control group did not receive encoding teachnique as a treatment. The researcher explained the 16 tenses by writing the pattern of each tense on whiteboard, so the students only copy those pattern on their notes. After copying those patterns, they were instructed to make sentence as the example from each pattern.

3. Post-test

After giving the treatment for experimental and control group, the last step was post-test. It delivered to each class with the same material. The realization of the post-test was same with the pre-test.

E. Data and Source of Data

There are two types of data that was used to answer the research problems, primary and secondary data.

1. Primary data

The primary data of this study was the data forms of students' ability in memorizing 16 tenses either the class used encoding technique in teaching grammar or not in second grade of SMPN 4 Surabaya.

2. Secondary data

The secondary data was the forms of supporting data gotten from several sources, they were attendance lists of students from two classes at second grade of SMPN 4, sylabus and schedule of English subject. Some theories were also taken to support the data obtained. Those sources of both primary and secondary data are from teachers, students, and the research presence at SMPN 4 Surabaya.

F. Data Collection Technique and Instrument

Collecting the data starts in both classes by conducting pre-test to find out students' ability in learning 16 tenses of grammar before given the treatment. Kind of test which is used in the pre-test was objective test. The objective test was used because it is more objective, representative, and has many advantages. For example, significantly reduce marking time and analysis of individual question is more feasible.⁴

One of objective tests here was grammatical transformation task. The possibility appropriate test was changing the tenses in a sentence.⁵ The test consisted of 20 questions with verb and the tenses name were available. Students were asked to complete the sentences with available words based on tenses names. A question only has a right answer.

Then, the researcher gave treatments in experimental class in teaching grammar for memorizing 16 tenses and no treatment in control group. The last step to collect the data was holding post-test and the score result collected. The form of post-test was also grammatical transformation task. There were 20 questions which provided. The scores from pre-test and posttest would be compared to find out whether the encoding technique that have done can improve students' ability in memorizing 16 tenses of grammar. Kind of tenses that should be memorized here, only verbal sentences. Although in the implementation of encoding technique covers all 16 tenses, but in the practice, more emphasis only on some tenses, such as simple present, simple past, simple future, present continuous, past continuous, and present perfect. It is because material grammar for junior high school based on syllabus.

⁴Bermawi Munthe, *Desain Pembelajaran*, (Yogyakarta: Pustaka Insan Madani, 2013), 120.

⁵ H. Douglas Brown, *Language Assessment: Principles and Classroom* Practices, (California: Longman, 2003), 226.

In implementing encoding technique, the researcher explained the rules of 16 tenses in different form of explanation and how to use it in written form. The instrument of implementing of the technique have been explained in chapter II. As we can see, 16 rules of tenses are divided into two columns. The left column consisted of *simple, continuous, perfect,* and *perfect continuous*. Whereas, in the right column contained about the time, *present, past, future,* and *past future.* For memorizing name of those tenses, can use tenet of left and right hand.⁶ The researcher as a model, showed how the tenses work with the fingers.

For testing the students capability in memorizing 16 tenses, the researcher used form of tenses memorizing rubric:

No.	Criteria of	Indicator	/	1	
	Memorizing		1	2	3
1.	The types of smart	1. Capable of			
	fingers	combaining right and			
		left hand technique			
		2. Mention tenses name			
		which is made by			
		combaining the			

 Table 3.2 Form of Tenses Memorizing Rubric

⁶ Hani Sutrino, *Metode Terbaru dalam Belajar Bahasa Inggris: Pintar Jari Tenses*, (Yogyakarta: Indonesia Tera, 2014), 27-28.

		technique
2.	The to be function	1. Memorize kind of
		to be
		2. Differentiate the <i>to</i>
		be that will be used
		in present and past
		continuous
3.	The auxiliary words	1. Memorize kind of
	function	auxiliries words in
		the table
		2. Differentiate
		auxiliaries words
		based on usage in
		the tenses pattern
4.	The verb usage	1. Capable of using
		appropriate verb
		with the key word of
		tenses name
		2. Capable of using
		verb in for of present
		or past participle
5.	Arranging the 16	1. Afford to write
	tenses	examples of 16

tenses based on the		
pattern.		

Note:

- 1 = Less
- 2 = Enough
- 3 = Very Good

G. Data Analysis Technique

Data in this study was obtained from research subject score to show whether any improvement in students' ability to memorize 16 tenses before and after implementing encoding technique. The first stage in analyzing the data was teacher judgement in form of students' english score from four classes (8D, 8E, 8F, 8G) which is equal. From those data, the researcher took two classes that were divided into control and experimental group. The second stage was calculating the score of pre-test and pos-test from both control and experimental group.

To analyze the data, the researcher compares the score of experimental group and control group. This was useful to prove statistically, whether there was any differences between the students' scores of the experimental group and the students' scores of the control group. In counting pre-test or post-test score result, the beginning step was tabulating the score (both control experimental classes) and counting each average score (mean) from each classes. The pattern used is⁷ :

$$\left(\boldsymbol{M}=\frac{\boldsymbol{\Sigma}\boldsymbol{x}}{\boldsymbol{N}}\right)$$

M : mean (average score)

 $\sum X$: score result of all respondens

N : responden amount

Meanwhile, to know students variant score, the reasearcher counted the percentage for each score, used the formula⁸ :

$$\boldsymbol{P}=\frac{F}{N}\times 100~\%$$

: the class percentage

Р

F : total percentage score

N : number of students

By tabulating the data of pre-test, post-test of control and experimental group, the improvement would be seen from the differences between those scores mean.

⁷Aqib Zainal,et.al., *Penelitian Tindakan Kelas*. (Bandung: YRAMA WIDYA, 2011), 204.

⁸ Anas Sudjiono, *Pengantar Statistik Pendidikan*, (Jakarta: PT. Raja Grafindo Persada, 2008), 43.