CHAPTER IV

RESEARCH FINDINGS

This chapter presents the research findings and the discussion based on the analysis of the data collected from the implementation of Encoding technique in teaching grammar to improve students' ability in memorizing 16 tenses. Related to the research findings, it can be seen from score between control group and experimental group that has differences in pre-test and post-test.

A. Research Findings

This research has been conducted from September 2nd – 28th, 2016 through the techniques of collecting data as stated in the research method. The data collected were devoted to answer the research question of how is 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 is there any improvement after implementing encoding technique to students' ability in memorizing 16 tenses in second grade of SMPN 4 Surabaya. To explain the result of this study, those findings are categorized based on the research questions.

1. The Implementation of Encoding Technique in Teaching Grammar to Improve Students' Ability in Memorizing 16 Tenses in second grade of SMPN 4 Surabaya

The encoding technique has been implemented to teach grammar in second grade approximately a month where there were around six until eight

meetings. Before holding the experimental research, there were several stages that have done. Those stages would be explain as follow:

a. Analyzing Teacher's Judgment Based on English Students Scores

The first stage was analyzing students' English score. The score obtained based on teacher's judgment from English score of the first grade. By calculating and comparing the average of scores in each class from all aspects of English such as reading, listening, speaking, and other soft skill, it could be consideration in determining experimental and control group. The researcher analyzed those averages and also considered which class for experimental and control group.

Then, the researcher determined class F for experimental group and class D for control group. Those classes taken because have nearly the same averages. Here is the part of comparison table of averages. For detailed information, see (*appendix 1*).

Table 4.1. Table average students scores

Student's number	8D	8E	8F	8G
1	90.9	85.5	93.2	83.4
2	92.2	92.6	93.7	85.3
3	91.3	86.1	92.0	81.6
4	90.0	86.75	92.3	87.1

5	90.8	86.5	93.6	86.2
6.	……	…….	……	……
Mean	**92.6**	**87.471**	**92.9**	**85.8**

Based on the table above, class 8D and 8F have nearly same mean. Mean or averages of class 8D was 92,6 and class 8D has 92,9. Whereas, class 8E and 8G have different mean, so that the researcher determined 8D and 8G as the sample of this research. Class 8F as the experimental group and class 8D became control group.

b. Pre-test Activity

After taking two classes: 8D as control group and 8F experimental group, the researcher conducted the next stage, is pre-test activity. Pre-test would be held by using the same task or question in both control group and experimental group. Here are the part of pre-test task. For the complete task, see (*appendix 2*).

The Question of Pre-test

Complete the sentences with available words based on tenses names!

1. My mother (*shop)* ..... the vegetables yesterday. (simple past)
2. John (*walk*) ..... to school everyday. (simple present)
3. We (*do*) ..... our homeworks yesterday. (simple past)
4. I (*see*) ..... the movies three times. (present perfect)

5. Martha (*watch*) ..... television at seven o'clock last night. (past continuous)

6. …….

The purpose of this activity was to know and analyze the students' score before giving the treatment in each class. In addition, this activity also aimed to compare the pre-test score with the score obtained by post-test activity, whether the score was increase or decrease in students' ability to memorize tenses. Not only that, but the purpose also to find out the changes brought about before and after implementing encoding techniques in teaching grammar.

c. Analyzing the Result of Pre-test

This was the result of pre-test that has been conducted in both control experimental group. From the data, the researcher analyzed the pre-test score by tabulating mean and percentage of score, determining minimal and maximal score in the group based on the formula which was mentioned in chapter III.

1) Data Pre-test of Experimental Group

Table 4.2. Experimental Group Pre-test Score

No	Nama	JK	Score
1	Acilia Gita Ayu Octaverly	P	80
2	Adysta Amaranti Lufta	P	70
3	Afrida Fariestan Zahrie	P	40

4	Aldo Nugraha Adeyawarman	L	40

Those scores were taken in the experimental class, that was class 8F which amounted to 41 students and all present at the test. The scores above were some of the overall scores obtained by the class. For the complete score, see (*appendix 3*).

Table 4.3 Frequency Distribution Experimental Group Pre-test Score (F class)

No.	Score	F	Percentage
1.	25	1	2,4%
2.	30	2	4,9%
3.	35	1	2,4%
4.	40	5	12,1%
5.	45	2	4,9%
6.	50	1	2,4%
8.	55	4	9,8%
9.	65	6	14,7%
10.	70	8	19,5%
11.	75	4	9,8%
12.	80	4	9,8%
13.	85	3	7,3%
Total		41	100%
Min : 25,00			

Max : 85,00
Mean : 61,10

From the table above, it can be seen that the minimal score obtained was 25,00 and maximal score was 85,00. Mean or average of the scores in that class was 61,10. Beside, the percentage of the scores was also calculated in percent for each score.

2) Data pre-test of Control group

Table 4.4. Control Group Pre-test Score

No	Nama	JK	Score
1	Aisyah Tarishah Putri	P	70
2	Anisah Zhafirah Putri	P	65
3	Annisa Sri Wijaya	P	70
4	Atta Divanita	P	75

Those scores were taken in the control class, that was class 8D which amounted to 41 students and all present at the test. The scores above were some of the overall scores obtained by the class. For the complete score, see (*appendix 3*).

Table 4.5. Frequency Distribution Control Group Pre-test Score (D class)

No.	Score	F	Percentage

1.	50	4	9,8%
2.	55	2	4,9%
3.	60	2	4,9%
4.	65	11	26,9%
5.	70	9	22%
6.	75	11	26,9%
7.	85	2	4,9%
Total		41	100%
Min : 50,00			
Max : 85,00			
Mean : 67,56			

From the table above, it can be seen that the minimal score obtained was 50,00 and maximal score was 85,00. Mean or average of the scores in that class was 67,56. Beside, the percentage of the scores was also calculated in percent for each score.

d. The Implementation of Encoding Technique

The following stage after conducting pre-test was implementation of encoding technique in teaching grammar, particularly in 16 tenses in experimental group. This stage was conducted during four until five meetings because need more times to deliver the material repeatedly. As mentioned in chapter II about the stages of implementing encoding

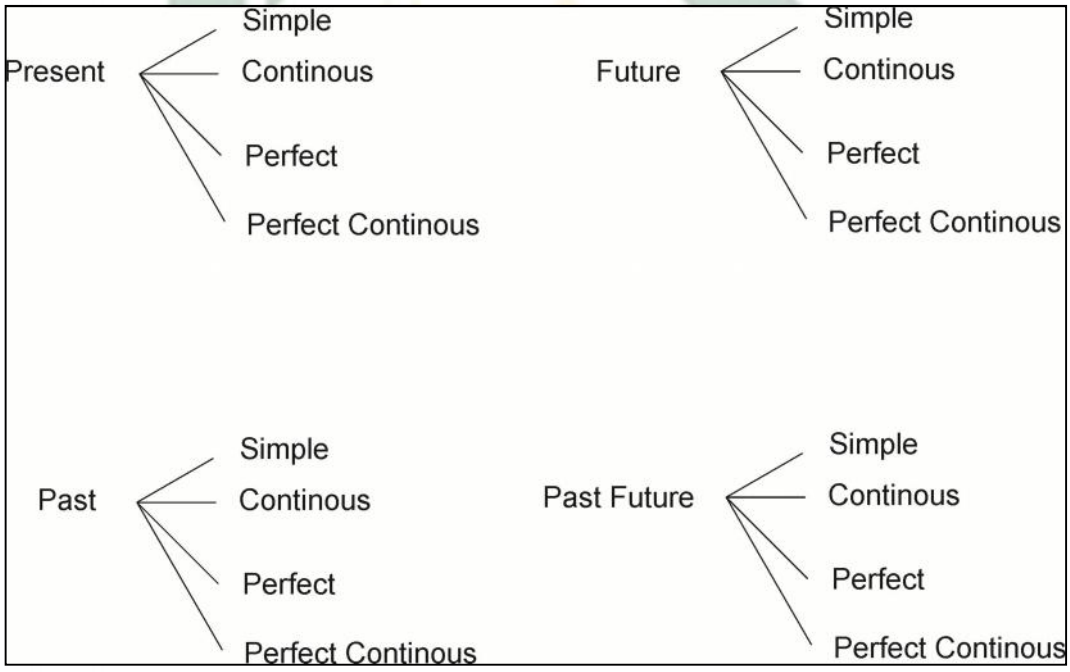
technique in teaching grammar, especially for 16 tenses, this chapter describe the steps of how to implemented encoding technique.

1) Using Smart Fingers

The first step was combining the tenses names by using the fingers. The researcher as the model instructed the students to pay attention and follow her. The use of the fingers based on the right and left hand tenet above as follow:

Those two columns were a key to arranged the tenses names. It would be the chart below:

Chart 4.1. Chart for tenses names arrangement



After that, followed by practice in combining the tenses names and the pattern. Then, following by practice activity. The researcher divided worksheet and asked them to make sentence based on the pictures, see (*appendix 6*). The stages of the technique was explained more detail in the lesson plan of experimental group, see (*appendix 5*)

e. Teaching 16 Tenses in Control Group

Whereas, in control group, there was no treatment. The researcher only write the name and the pattern of 16 tenses in the whiteboard and then, the students just copied those in their notebook. After copying it, the researcher instructed them to memorize all those tenses and the patterns. After memorizing activity, the researcher gave some questions as practice The detail stages of control group in the lesson plan, (*appendix 6*)

f. Post-test Activity

Furthermore, after conducting the experiment on two groups (experimental and control), the researcher did post-test in control and experimental group by the same task or questions. This activity was conducted in seventh or eighth meeting. Here are the part of post-test task. For the complete task, see (*appendix 7*).

Post-test

Complete the sentences with available words based on tenses names!

1. Jenny (*call*) ..... her employer since five minutes ago. (present perfect)

2. We (*travel*) ..... around the world. (simple future)
3. The leave (*fall*) ..... into the land. (simple present)
4. Savira (*swim*) ..... in the pool last month. (past continuous)
5. …….

g. Analyzing the Result of Post-test

Hereafter, the researcher did data analyzing by seeing the result in form of pre and post-test score of students. The beginning is tabulating the score data and counting the mean of each group to know the differences of group score. After that, score percentage also would be counted to know the variant of score that is got by students.

a. Data post-test Experimental group

This was the result of post-test that has been conducted in experimental group..

Table 4.6. Experimental Group Post-test Score

No	Nama	JK	Score
1	Acilia Gita Ayu Octaverly	P	90
2	Adysta Amaranti Lufta	P	75
3	Afrida Fariestan Zahrie	P	70
4	Aldo Nugraha Adeyawarman	L	90

Those scores were taken in the experimental class, that was class 8F which amounted to 41 students and all present at the test. The scores above were some of the overall scores obtained by the class. For the complete score, see (*appendix 8*)**.**

Table 4.7. Frequency Distribution Experimental Group Post-test Score (F class)

No.	Score	F	Percentage
1.	50	2	4,9%
2.	65	9	22%
3.	70	5	12,2%
4.	75	10	24,3%
5.	80	1	2,4%
6.	90	10	24,3%
7.	95	4	9.8
Total		41	100%
Min : 50,00			
Max : 95,00			
Mean : 76,70			

From the table above, it can be seen that the minimal score obtained was 50,00 and maximal score was 95,00. Mean or average of the scores in that class was 76,70. Beside, the percentage of the scores was also calculated in percent for each score.

b. Data post-test of Control group

This was the result of post-test that has been conducted in experimental group.

Table 4.8. Control Group Post-test Score

No	Nama	JK	Score
1	Aisyah Tarishah Putri	P	50
2	Anisah Zhafirah Putri	P	60
3	Annisa Sri Wijaya	P	50
4	Atta Divanita	P	75

Those scores were taken in the control class, that was class 8D which amounted to 41 students and all present at the test. The scores above were some of the overall scores obtained by the class. For the complete score, see (*appendix 9*).

Table 4.9 Frequency Distribution Control Group Post-test Score (D class)

No.	Score	F	Percentage
1.	15	1	2,4%

2.	35	1	2,4%
3.	40	4	9,8%
4.	45	1	2,4%
5.	50	11	26,9%
6.	55	5	12,2%
7.	60	3	7,3%
8.	65	1	2,4%
9.	70	9	22%
10.	75	3	7,4%
11.	80	1	2,4%
12.	85	1	2,4%
Total		41	100%
Min : 15,00			
Max : 85,00			
Mean : 57.19			

From the table above, it can be seen that the minimal score obtained was 15,00 and maximal score was 85,00. Mean or average of the scores in that class was 57,19. Beside, the percentage of the scores was also calculated in percent for each score.

2. Improvement in Students' Ability in memorizing 16 Tenses in Second Grade of SMPN 4 Surabaya.

The second of research question was answered by conducting pre-test and post-test for both of control and experimental group. After conducting pre and pos-test, researcher shows the result of data pre-test and pos-test in experimental and control group as mentioned below:

Tabel 4.9.1. Frequency Distribution Pre-test, Post-test Experimental and Control Group

Data	N	Min	Max	Mean
Pre-test Experimental	41	25	85	61,10
Pre-test Control	41	50	85	67,65
Post-test Experimental	41	50	95	76,70
Post-test Control	41	15	85	57.19

From the table above, the researcher stated that mean of pre-test control is 67,65 and the pre-test of experimental is 61,10. In addition, the mean of post-test control is 57,19 and the mean of post-test experimental is 76,70. To ensure the comparison of result in pre-test, post-test of experimental and control group, the researcher showed the table below:

Table 4.9.1 Improvement Level of Experimental and Control Group

	Mean	Range	Improvement
Pre-test of Experimental	61,10	15,6	Increase
Post-test of Experimental	76,70		
Pre-test of Control	67,56	-10,37	Decrease
Post-test of Control	57.19		

The table showed that control group has decrease in post-test. It can be seen from the range of pre-test and post-test in control group was -10,37. Meanwhile, in experimental group was highly increase which is proven by the range of pre-test and post-test score is 15,6. From those explanations, the researcher can conclude that experimental group has improved.

B. Discussion

Based on the research findings, the implementation of encoding technique run smoothly. Since the use of smart fingers tenses for naming the 16 tenses, explaining auxiliary words, dividing continuous and not in continuous form, until determining the verb. Not only that, the researcher also found some problems which effect on the implementation of encoding technique. Those problems came not only from students, but also because of the situation and the classroom environment that interfered in learning process. Moreover, in score improvement, there were several students having impairment. Not all students had increase in their score after implementation of encoding technique. For the further discussion would be explained as follow:

1. The Implementation of Encoding Technique

a. Using the Smart Fingers

In the implementation of encoding technique, the researcher delivered the stages regularly. In using smart fingers stage, students could follow the instruction quickly in how to naming the 16 tenses, because as stated by Wayne Weiten that encoding is a change of information be a code transfered to the memory.[1] By using their fingers, it became interesting way to teach grammar especially in tenses to make the students understand and memorize 16 tenses. As mentioned by Y. Wang that the memorization process envelopes encoding as knowledge

[1] Wayne Weiten, *Psychology: Theme & Variation*, (USA: Wadsworth Publishing Company, 2000), 195.

representation step, retention as information storing process in Long-Term Memory (LTM)[2]. By doing so, the students would be able to memorize 16 tenses.

b. Explaining the Auxiliary Words

This was the step to presented the rules of encoding by showing this auxiliary table.

	Auxiliaries	To be	Verb
Present	do / does	am / is / are	1
Past	Did	was / were	2
Future	will / shall	Be	1
Past Future	would / should	Be	1
Perfect	have / has	Been	3
Past Perfect	Had	Been	3

The researcher explained the rules clearly. Although several students still did not understand, the explanation delivered repeatedly. The researcher tried to implement the guidelines for presenting the rule according to Michael Swan by following five principles. Those are: *truth, limitation and Clarity, Simplycity, familiarity, and must be relevance.*[3]

[2] Yingxu Wang, *Formal Description of the Cognitive Process of Memorization*, (Berlin: Verlag Berlin Heidelberg, 2009),
[3] Michael Swan in Scott Thornbury, *How to Teach Grammar*, (London: Pearson ESL, 2000), 32.

2. Problems in Implementation of Encoding Technique

a. Factor from Students

Problems caused in learning process was influenced by some factors. Those factors were from students who make noise, differences in students' ability, and also classroom environment and unfavorable situation. The main problem came from students. There were some students who do not pay attention then make a noise that could interfere on another friend. This was very disturbed to the student who was concentrating on material from the encoding techniques presented. Students' concentration disturbed could effect on students' memorizing ability level. The lower level of students' concentration, it made the memorizing ability was also decrease.

Even though, encoding technique need more attention to learn each step in getting understanding about 16 tenses. Considering it is difficult aspect of English. In memorization ability itself, more brain is trained, memorization skill is also strong. As stated by Y. Wang in his research that memorization may need to be repeated, the longer the time spent on memorization and learning, the better the effect of memorization.[4] In implementing encoding technique to teach 16 tenses, more time and learning process are needed in making students' ability to memorize sharper.

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[4] Yingxu Wang, *Formal Description of the Cognitive Process of Memorization*, (Berlin: Verlag Berlin Heidelberg, 2009), 91.

The level of students' concentrations which influenced on memorizing ability would effect on working the post-test. In fact, the researcher must implement the technique repeatedly. Automatically, it needed more time and also could be influenced on students' score as a result of memorization test.

b. Environmental Factors and Unfavorable Situation

In addition the factors from students, problems that disrupt the learning process is a class situation and lighting that can impair vision students. Because of the learning process was done during midday, the students felt dazzled by the sunlight from the outside that bounced into the whiteboard. The impact was the students sitting in the back could not see what was written on the whiteboard.

c. Limited Time

Other factor which influence on implementing encoding is limited time. By seeing several previous factors, it gave effect on implementing process. In fact, the implementation of encoding technique needed more times because students were still not understand and memorize those 16 tenses. While, licensing from the school only gave several meetings to did research there.