

CHAPTER III

RESEARCH METHODOLOGY

3.1. Research Design

In this study, the researcher used a quantitative method with a true-experimental research design. Creswell (2012: 294) stated that an experimental research design is used for conducting quantitative research. True experimental design is a statistical approach to establishing a cause-and-effect relationship between different variables. Therefore, true-experimental research design is one of effective yet difficult one compared to other type of experimental research design. There are three criteria that need to be met in order to carry this type of research: 1) the existence of a control group: the sample of participants is subdivided into 2 group-one that subjected to the experiment and so, undergoes changes and the other that does not. 2) the presence of an independent variable: independent variables that influence the working of other variables must be there for the researcher to control and observe changes. 3) random assignment: participant must be randomly distributed within the groups (Mertler, Vannatta, and Venia, 2021:45).

This research used true experimental research design, where the researcher chose two groups, one group as a control group and one group as the experimental group. Based on the Creswell (2012:67), the researcher randomly assigned the participants to differ conditions of the experimental variable. Individuals in the experimental group received the experimental treatment, whereas those in the control group received conventional method. In the experimental group, the researcher gave a treatment by using contextual teaching and learning approach to increase vocabulary mastery especially for content words (Noun and Adjective) and a post-test

only after the treatment, meanwhile in the control group, the researcher did not give any treatment because in the control class the researcher taught material by using Conventional method like Syllabus and Lesson Plan (RPP) of English language of eight grade students of SMP Swasta Pelita Medan but the researcher only gave the post-test after teaching session

In this research, the researcher used two different classes. They were experimental class and control class. Experimental class was taught by using Contextual teaching and learning approach and control class which was taught by using Conventional method. Conventional method was taught by using English textbook. The design of this study can be seen as follow: there were 70 students where each class has 35 students, in the control class has 35 students and in the experimental class has 35 students. The researcher taught 8 meetings for the research until the researcher found a valid data during the research. In brief, the design pattern of this study can be seen as follow:

Table 3.1 The Design Pattern of the Study

Group	Pre-test	Treatment	Post-test
Experimental Group	X1	√	X2
Control Group	Y1	-	Y2

Where:

X1 : Pre-test of experimental group

Y1 : Pre-test of control group

X2 : Post-test of experimental group

Y2 : Post-test of control group

√ : Using Contextual Teaching and Learning approach to teach vocabulary

- : Without using Contextual Teaching and Learning approach to teach vocabulary

3.2. Population and Sample

The research population is all objects that studied and analyzed. The population of this study was all eighth-grade students of SMP Swasta Pelita Medan. To take sample for this study, the researcher used random sampling technique, that relied on trust and researcher assessment in selecting samples. The total of eighth-grade students at SMP Swasta Pelita Medan in this research was 220. The population of this study is in the following table:

Table 3.2 Population of the Study

NO	Class	Population
1.	VIII A	35
2.	VIII B	35
3.	VIII C	30
4.	VIII D	30

5.	VIII E	30
6.	VIII F	30
7.	VIII G	30
	TOTAL	220

3.2.1. Sample

The research sample is part of the population taken as a data source and can represent the entire population. The sampling technique used in this study was a random sampling technique. Based on Kerlinger (2006:188), simple random sampling is a research method which every member of the population has equal opportunity to be the participant. This study took two classes as research samples, namely VIII A as the control class and VIII B as the experimental class. The experimental class consists of 35 students and the control class consists of 35 students, with a sample total of 70 students. The sample of this study is in the following table:

Table 3.3 The Sample of Study

NO	Class	Sample
1	VIII A	35
2	VIII B	35
	Total Number of students	70

3.3. Treatment

The treatment was carried after giving the pre-test. In the experimental class, the researcher focused on applying Contextual Teaching and Learning approach to teach unfamiliar content words (Nouns and Adjectives) in the passage of English textbook, and in the control class, the researcher taught material by using conventional method like syllabus and Lesson Plan (RPP) of English language of class VIII from the school. The experimental class and control class used the same material with different treatment. The steps for applying Contextual Teaching and Learning Approach to teach vocabulary in this reserch were in the following:

First meeting

- Opening
Teacher greeted the students
- Main Activity
 - The teacher gave the explanation of content words (Noun, and Adjectives) and Contextual Teaching and Learning approach.
 - The teacher ensured that students understood the meaning of the words is apparent when using the surrounding context.
- Problem Statement
 - Students found the meaning of the words or materials to be discussed.
 - Students needed to actively to discuss in this step.
- Data Collection

Students were directed to form groups, discussed the meaning of the words and material from each student, and explained the result of their discussions with other groups then other groups provided suggestion and criticisms.

- Closing

Teacher gave greeting to end the lesson in the first meeting.

Second meeting

- Opening

Teacher greeted the students

- Main Activity

- The teacher gave an example of unfamiliar content words in the context
- The teacher provided an illustration of the material and ideas to be discussed.

- Closing

- Teacher gave greeting to end the lesson in the second meeting.

Third meeting

- Opening

Teacher greeted the students

- Main Activity

- The teacher explained the familiar and unfamiliar content words in the context and asked the students to find the meaning by applying Contextual Teaching and Learning Approach
- Closing
Teacher gave greeting to end the lesson in the third meeting

Fourth meeting

- Opening
Teacher greeted the students
- Main Activity
 - The teacher explained the Contextual Teaching and Learning Approach to teach words with the passage in the context.
 - The teacher asked students to try to work on questions about the meaning of content words found in the paragraph for example, “what does the paragraph tell you about the word?”.
- Closing
Teacher gave greeting to end the lesson in the fourth meeting.

Fifth meeting

- Opening
Teacher greeted the students
- Main Activity
 - The teacher asked students to guess the meaning of words in the paragraph within the context using Contextual Teaching and Learning Approach

- The teacher asked students to analyze the meaning of words in paragraph within the context using Contextual Teaching and Learning Approach
- Closing
Teacher gave greeting to end the lesson in fifth meeting

Sixth meeting

- Opening
Teacher greeted the students
- Main Activity
 - The teacher guided the students to answer the exercise about content words in the passage with the context using Contextual Teaching and Learning Approach
- Closing
Teacher gave the greeting to end the lesson in the sixth meeting.

Seventh meeting

- Opening
Teacher greeted the students
- Main Activity
 - The teacher asked students to discuss the answer of the questions what they have answered about familiar and unfamiliar content words in the

passage or paragraph with the context using Contextual Teaching and Learning Approach

- The teacher monitored students to do their task.

- Closing

Teacher gave greeting to end the lesson in the seventh meeting.

Eighth meeting

- Opening

Teacher greeted the students

- Main Activity

- The students discussed about the questions.
- The teacher gave grades and feedback on students' task.

- Closing

Teacher gave greeting to end the lesson in the eighth meeting.

3.4. Research Instrument

The data was collected from pre-test and post-test. The pre-test was given to the students in the first meeting before the treatment given while the post-test was given after the treatment. There were two instruments used to take the required information in this research:

1. Pre-test

Pre-test is an activity to test the level of students' knowledge of the material to be delivered. Pre-test activities was carried before teaching activities were given. The benefit of

holding a pre-test was to find out the student's initial ability regarding the lesson being delivered. Before treatment, the researcher gave the students a vocabulary test to find out the students' vocabulary mastery regarding the lesson being delivered.

2. Post-test

Post-test is the final evaluation when the material taught on that day has been given. The researcher gave a post-test with the intention of whether students had understood about the material just given that day. The benefit of holding this post-test was to get picture of the students' ability achieved after the end of the lesson delivery. After treatment, the researcher gave a post-test to know students' vocabulary mastery achieved after the end of the lesson delivery. In this study, the researcher used the vocabulary test as an instrument to measure students' vocabulary mastery. There are three types of vocabulary tests; those are multiple-choice test; gap-fill test and cloze test. In this research, the researcher chose gap-fill test for testing vocabulary.

Gap-fill test requires students to recall the word from memory in order to complete a sentence or text. Gap-fill tests is to evaluate the ability to produce a word rather than simply recognize it. In a gap-fill test, the gaps are regularly spaced – for example, every seventh, eighth, or ninth word. In this way, knowledge of the wide range of word types including content words. Moreover, the ability to complete the gaps depended on understanding the context. In this case, the researcher chose a subjective test especially the gap-fill test because Thornbury (2002:34) said that the test can be steered more toward content words, and hence become a more valid test of vocabulary. The vocabulary test used was a fill-the-blank test about content words (Noun and Adjective) in the passage or paragraph using contextual

teaching and learning approach. Example of Fill in blank test used in English textbook of Eight grade students of SMP Pelita as follows:

Teaching Instruction: Please find the meaning of the word is apparent when using the surrounding context. You may fill in the blanks with the content words in the box. (Hint: the content words can be nouns, verbs, adjectives and adverbs).

mall	shirt	house	kitchen
birthday cake	candle	flowers	living room
happy	present		

shopping at the
 (1) We bought a nice (2) Then, we wrapped it in a blue paper. Blue is my grandpa's favorite color. On Saturday morning, my brother and I helped my sister make a birthday cake in the (3) It was a big and beautiful (4) I wrote 'Happy Birthday' on it. After that, we put some chocolate and a (5) on the top of the cake. On Sunday evening, my uncle and my aunt came to my (6) They brought several bottles of soft drink, and (7) for grandpa. Then, we sat together in the (8) Finally, grandpa blew out the candle and cut the cake while we were singing a 'Happy Birthday' song for him. After giving each of us a piece of cake, he opened the (9) He told us that he liked the present, and he was very (10)

Table 3.4 Holistic Scoring Rubric of Vocabulary Mastery
 (Bargainnier, 2003: 4)

Score	Criteria
80-100%	The student shows a complete understanding of all the given topics. They are fully capable of explaining their reasoning. The writing is error-free.
60-79%	The student shows considerable understanding of all the given topics. They are somewhat capable of explaining their reasoning. The

	writing includes minor errors.
40-59%	The student shows considerable understanding of the majority of the given topics. They can explain their reasoning in some cases. The writing includes several errors.
0-39%	The Student failed to demonstrate their understanding in the majority of the cases. Writing contains major errors.

*KKM Score is 75

3.5. Reliability and Validity of Instrument

3.5.1. Reliability

Reliability refers to the consistency of a measure (whether the result can be reproduced under the same conditions). According to Sugiharto and Situnjak (2006), reliability refers to an understanding that the instruments used in research to obtain information used can be trusted as a data collection tool information in the field. Ghozali (2009) said that reliability is a tool for measuring a questionnaire which is an indicator of a variable or construct. In this research, the number of respondents in this research instrument used a total of 70 students as samples.

To test reliability of this research by using SPSS. The data processing was carried out with the of SPSS 2.6 program.

3.5.2. Validity

According to Heale and Twycross (2015:3), validity is defined as the extent to which a concept was accurately measured in a quantitative study. In this case, it is necessary to determine whether the instrument is valid and reliable. Validity is the extent to which the result really

measures what they are supposed to measure. Validity instrument means that the measuring of instrument to obtain the data valid. In this research, the number of respondents in this research instrument used a total of 75 students as sample.

In determining whether an item is suitable or not, a valid significance test was usually used in this reserch, if it correlates significantly with the total score. The SPSS testing technique was often used to test validity used Bivariant Pearson correlation (Pearson Moment Products).

3.6. Technique of Data Collection

Data was collected from eight grade students of SMP Swasta Pelita Medan. The researcher collected the data by using pre-test and post-test from the experimental group and the control group. The results of the pre-test and post-test of the two classes were compared to see if there was a significant difference in students' vocabulary mastery using Contextual Teaching and Learning approach and not using it. In collecting data, the researcher used pre-test and post-test.

3.7. Technique of Data Analysis

In analyzing the data, the researcher used statistical program (SPSS 26) with T-test hypothesis. The quantitative data analysis was used to know the students' score in vocabulary mastery after applying Contextual Teaching and Learning Approach. The researcher conducted a fill in the blank vocabulary test to students before and after they were taught by using Contextual Teaching and Learning approach.