

CHAPTER III

RESEARCH METHOD

This chapter elaborates the method employed in this research and describes the procedures of the study to answer the research questions stated in chapter one. It covers the mixed method, the research design, the research site, the data collection method, the research procedures, and the data analysis.

3.1 Mixed Method

Mixed methods research is a research that combines both qualitative and quantitative approach to provide deeper understanding of a research problem than either approach alone (Creswell, 2014). He further asserts that mixed method research has six designs which are convergent parallel mixed methods, explanatory sequential mixed methods, exploratory sequential mixed methods, embedded mixed methods, transformative mixed methods, multiphase mixed methods (Creswell, 2014). In line with this, this study most appropriately uses embedded design where qualitative methods are embedded within a quantitative design.

Cresswell and Clark (2007, pg.68) prevailed that the embedded design has three models which are embedded design, embedded experimental model, and embedded correlational model. The model that is used in this research is embedded experimental model as defined by Creswell and Clark (2007, pg.69) it is a model where an experimental design is embedded by having qualitative data. According to Creswell and Clark (2007), there are at least six procedures in conducting the embedded experimental model, as follows;

1. Collecting qualitative data before the intervention,
2. Collecting quantitative data as a premeasure,
3. Conducting the intervention along with collecting qualitative data during the intervention,

4. Collecting quantitative data as a post measure,
5. Collecting qualitative data after the intervention,
6. Interpreting the data collection from both quantitative and qualitative.

The model can also be portayed below:

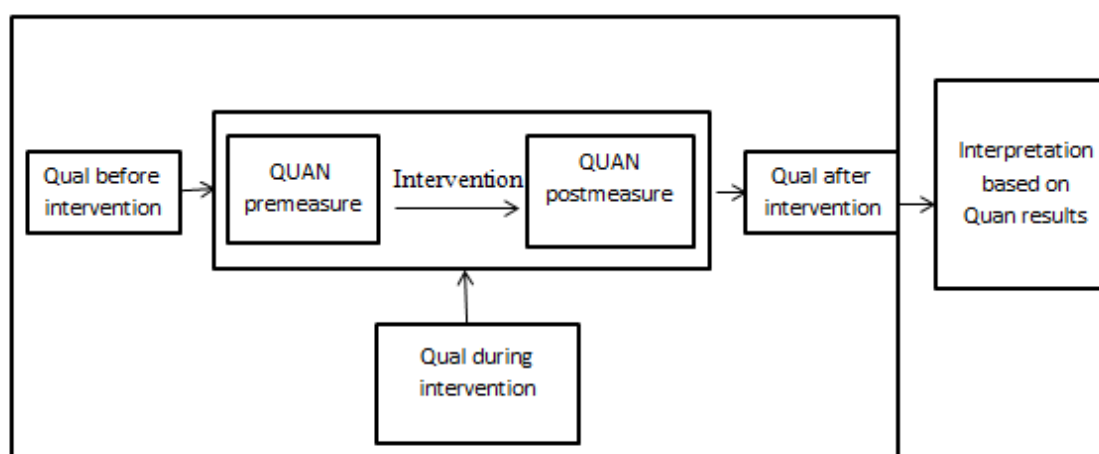


Figure 3.1 The Emedded Experimental Model

In this study, the researcher collected the qualitative data during intervention and after conducting the post measure. As it is strongly supported by Creswell and Clark (2007) that “alternatively, qualitative data can come before or after the intervention in a two-phase model”. Gaining data after doing post measure is aimed to explain the results of the intervention and to follow up on the experienced of participants with certain types of outcomes (Creswell and Clark, 2007). This method is applied to gain a clearer picture from the quantitative data supported by the explanation from qualitative data to provide better understanding and explanation of the study in question. To sum up, this design is aimed to make quantitative results are more richly elaborated by qualitative results.

3.2 Research Design

This study adresses the improvement of students’ reading comprehension and their active involvement in the classroom by using K-W-L strategy. The mixed

method research is employed in this study. Creswell (2014) defines it as a research that both qualitative and quantitative approaches are combined to provide deeper understanding of a research problem than either approach alone. The embedded experimental model is the most appropriate model to be applied in this research because the quantitative data is supported by the explanation from qualitative data to obtain depth understanding of the study in questions.

In order to be able to explore in depth quantitative data, the researcher gained the qualitative data from participants who could strengthen explaining the results. In the current study, the main focus was on the quantitative aspects while the subordinate focus was on the qualitative aspects. To do with quantitative aspects, the quasi-experimental is applied in this study. White and Shabarwal (2014) defines quasi-experimental method as research design that employs manipulation and controlled testing to comprehend the causality of the process. There was one instrument that was administered which was test. To deal with qualitative aspects, the descriptive method is conducted. In this regard, descriptive method is devoted to prevail conditions or situations for the purpose of description and interpretation (Aggarwal, 2008 in Salaria, 2012). In this case, there were two instruments that were occupied which were classroom observation and interview. Therefore, the instruments which were applied in this study were tests, classroom observation, and interview.

Firstly, to do with the test, it is employed to produce better organization of knowledge and to provide feedback to instructors (Roediger III et. al, 2011) . It should be valid and reliable in order to get accurate data (Maulida, 2016). Then, the classroom observation checklist is administered to investigate whether the K-W-L strategy is implemented in the classroom or not. Moreover, field notes from classroom observation checklist are employed to see how the strategy used by the teacher affects the behaviours and students outcome (Evertson and Green, 1986). Then, the interview was conducted to find out the interviewees' perception and interpretation towards the method given (Kajomboon, 2005).

3.3 Research Site

The research took place at one of junior high school in in West Bandung Regency. There were two classes of seventh grade that were taken to be samples; one class of control group and one class of experimental group. Each of the class consists of 32 students.

Focusing on one of English subjects, reading, the research observed and analyzed the students' reading comprehension and their involvement in the teaching and learning process through KWL strategy. The researcher was teacher-researcher that applied the strategy, conducted the lesson, administered the tests to the students, and also a participant observer. Regarding this, the text that was employed was descriptive text since it was in line with the 2013 curriculum for seventh graders.

3.4 Data Collection

There were some steps and instruments used to gain the data in order to reveal the answer of the research question which could obtain a richer and deeper insight into the phenomenon under the study; those were tests, classroom observation, and interview.

3.4.1 Instrumentation

3.4.1.1 Test

The tests that were administered were pre-test and post-test. Those were in the form of multiple choice test which consists of 20 questions. The tests were achievement tests, employed to measure the students reading comprehension before and after the treatment. The procedure in collecting the data from the tests were divided into three steps, namely: pre-test, treatment, and post-test.

a. Pre-test

Firstly, the researcher explained the research. Both of the control group and the experimental group were given a pre-test before doing treatment for the experimental group. The test itself was conducted in the first meeting.

b. Treatment

After the pre-test, the students of experimental group were given the treatment by using K-W-L strategy, while the control group did not get the treatment.

c. Post-test

The post-test was given to both experimental and the control group to know the different score. It was given after finishing the treatment. Furthermore, it was used to obtain the differences mean of the experimental and control group. The post-test was given in the last meeting.

3.4.1.2 Classroom Observation

One of the instruments that was used to collect the data in this study was observation. Regarding this, Chesterfield (1997, p.1) pointed out that classroom observation is a tool that can portray the naturally occurring events of an educational intervention. He further affirmed that observational data can be used as evidence to explain behaviours and students' outcomes from implementing a strategy (Chesterfield, 1997. p.3). It is supported by Kawulich (2005) that students' behaviour and the justification of the behaviour can be well investigated through observation. Furthermore, the researcher was participant observer and invited colleagues to become the observer too in order to make the result less subjective; thus, the researcher played a more neutral observer role.

The classroom observation was made based on the lesson plan of K-W-L. It was conducted in five meetings. It was designed to discover the use of KWL in improving students' reading comprehension on descriptive text and to find out the students' positive involvement in the classroom activities. The type of the

observation is observation checklist and field notes. Those were employed as the tools to give rich and detailed descriptions when the observation was held.

3.4.1.3 Interview

Interview is described as the verbal conversation conducted by two people to collect relevant information for the purpose of the research (Edwards and Holland, 2013). The researcher conducted the interview after the interviewee finishing the five meetings treatment. The interview's type was semi-structured where several key questions are provided to elaborate the areas which required to be explored and allow the interviewer or interviewee to diverge in order to pursue an idea or response in more detail (Gill et. al, 2008). The researcher asked three persons from the treatment group which consisted of one higher achiever, one middle achiever, and one lower achiever students. The interview was audio recorded. There were 12 key questions related to the effectiveness of K-W-L to improve their reading comprehension and students' active involvement in the classroom.

3.5 Research Procedures

The procedures of this study were described as follows.

3.5.1 Selecting the K-W-L Strategy

The selected K-W-L strategy is adapted from Ogle (1986). There are three specific steps in K-W-L that could enhance students' reading comprehension: (a) know, (b) want to know, (c) learned, (d) want to learn more. In the first two steps of K-W-L, students and the teacher engage in the oral discussion. In the "know" step, students are encouraged to share what they know about the topic; this will lead them to link their prior knowledge about the topic. Furthermore, in the "want to know" step, students tell what they want to know about the topic by raising questions. Then, in the "learned" step, the new materials are read and shared by the students.

3.5.1 Selecting the Material

The material were taken from the text books or other relevant sources that correspond with descriptive text.

3.5.2 Preparing the Lesson Plans

There are five lesson plans that were implemented in this research. Those lesson plans were designed by researcher as a teacher researcher for five meetings. There were two different lesson plans; for conventional strategy and for KWL strategy, in order to describe what the teacher plans to do in a class and what she actually does. The conventional strategy was given to the control group while the KWL strategy was devoted for the treatment group.

3.5.3 Preparing the Pre-test and Post-Test

The pre-test was conducted to the experimental and control group. The pre-test was administered in the form of multiple choices. The post-test was accomplished in the last meeting. The type of the test was in form of multiple choices too as same as the pre-test. The results of the pre-test and the post-test were reported and analyzed using the appropriate statistical methods which was SPSS 16.0 for windows.

In constructing the test, the writer did some steps, as follows:

- 1) Preparing the test. The test were in form of multiple choice reading comprehension test,
- 2) Asking the expert judgement on the appropriateness. It was the judgement from the writer's advisors,
- 3) Conducting pilot test,
- 4) Analyzing the result, whether or not it was valid and reliable,
- 5) Producing the final test,
- 6) Conducting the test.

3.5.4 Conducting Pilot Test

The pilot test was carried out to the students of the same level but different class from the control and experimental group to provide a valid and reliable test.

3.5.6 Employing Pre-test

The pre-test was conducted in the first meeting before giving control and treatment to the groups. The pre-test was in form of multiple choices.

3.5.7 Teaching Phase

There were different lesson plans for control and experimental group. The lesson plans were elaborated as follows;

a. Control Group

Table 3.1 Lesson Plan for Control Group

Reading Stage	Instructional Focuses	Activities
Pre-reading	Preparation for reading	Teacher explains a little bit about the topic. Teacher explains how to identify main idea by giving example to the students.
Whilst-reading	Silent reading	Students are asked to read the text silently.
Post Reading	Follow up activities	Students are given test after reading to check their understanding.

b. Experimental Group

Table 3.2 Lesson Plan for Experimental Group

Reading Stages	Instructional focuses	Activities	
		Teacher	Students
Pre-reading	Know (What they know about the topic)	1. Showing pictures/videos related to the topic to the students.	1. Giving responses towards the pictures/videos given

		<ol style="list-style-type: none"> 2. Asking students about the pictures/videos to trigger their prior knowledge about the topic. 3. Asking students to say anything they know about the topic to make prediction of the text. 4. Asking students to voluntarily write what they know on K chart. 	<ol style="list-style-type: none"> 2. Answering the teacher's questions 3. Stating what they know upon the topic verbally. 4. By teacher guidance, students write it down in K chart.
	<p style="text-align: center;">What (What students want to know about the topic)</p>	<ol style="list-style-type: none"> 1. Giving modelling of making questions related to the topic. 2. Asking students to make questions or what they want to know about the topic to give them purpose for reading 3. Asking students to say anything they want to know in questions' form about the topic 4. Asking students to voluntarily write the questions on W chart. 	<ol style="list-style-type: none"> 1. Students make questions on what students want to know in the form of questions sentences or phrases. 2. Students make inquiry verbally on what students want to know in the form of questions sentences or phrases. 3. By teacher guidance, students write it down in W chart.
Whilst-reading	<p style="text-align: center;">Learned (What students learned after reading the text)</p>	<ol style="list-style-type: none"> 1. Asking students to read the text silently. 2. Asking the students to 	<ol style="list-style-type: none"> 1. Students read the text silently. 2. Students answer the questions from W coloumn

		<p>answer the questions verbally in W column based on the text.</p> <ol style="list-style-type: none"> 3. Asking students to write the answer of the questions on L column. 4. Asking students to write new information from the text on L column. 5. Asking student to write new vocabularies from the text on L column. 6. Asking students to identify author's purpose of the text. 7. Asking students to identify main idea of the text. 8. Asking students to make connections to themselves, or another text, or the world. 	<p>verbally.</p> <ol style="list-style-type: none"> 3. Students write the answer of the questions on L column. 4. Students write new information from the text on L column 5. Students write new vocabularies from the text on L column. 6. Students identify author's purpose of the text. 7. Students identify main idea of the text. 8. Students make connections to themselves, or another text, or the world. 9. Students share their findings
Post-reading	Follow up activities	<ol style="list-style-type: none"> 1. Students are given test after reading to check their understanding. 	<ol style="list-style-type: none"> 1. Students are doing the test after reading to check their understanding.

3.5.8 Administering Classroom Observation

The classroom observation consisted of classroom observation checklist and field notes. Those were accomplished during the teaching phase for five meetings.

3.5.9 Conducting Post-Test

The post-test was employed in the last meeting after the groups have been given treatment and control. The post-test was in form of multiple choices that consisted of 20 questions.

3.5.10 Conducting Interview

Carrying out the interview was conducted after they have finished the treatments. The interview was semi-structured and three persons from each level such as high achiever, middle achiever, low achiever were selected to find out the effectiveness of K-W-L strategy towards their reading comprehension and their active involvement in the classroom.

3.5.11 Analyzing the Data

The researcher analyzed the data from three instruments namely pre-test and post-test, classroom observation, and interview. To do with the tests, the mean scores of each class both from the pre-test and the post test were examined by using T-test in SPSS 16.0 for windows. Furthermore, to do with classroom observation, it was scrutinized by analyzing the result and linking it with the theories underly. Lastly, to do with interview, the result was investigated through interpreting the result by connecting it with related theories and research.

3.5.12 Interpreting and Figuring Out the Conclusion

After analyzing the result from the data, the researcher interpreted the findings and made inference about the impact of implementing K-W-L strategy to the seventh graders' reading comprehension and their involvement in teaching and learning process.

3.6 Data Analysis

The procedure of analyzing the data was conducted based on the instruments used in the research. First, the data were obtained from the pre-test and the post-test. Second, the data were gained from the classroom observation checklist and questionnaire.

3.6.1 Data Analysis on Pilot Test

Pilot test was conducted to measure the validity and reliability of the instrument. The valid and reliable items are used as the research instrument.

3.6.1.1 Validity test

Validity is described as the accurate measurement whether the test measures what it is intended to measure (Golafshani, 2003). In this study, the validity is measured by using Pearson Product Moment Correlation in SPSS v.16.

3.6.1.2 Reliability test

Reliability is defined as the consistency of the results over time using similar methodology which involves the accurate representation of the total population (Joppe, 2000, in Golafshani 2003).

3.6.2 Analysis Data from Pre-test and Post-test

Firstly, the score was classified to find out the level of reading of each student. The classification is adapted from Depdiknas's scoring system (2006:38), as follow.

Table 3.3**Scoring Classification of Students' Reading Achievement**

No.	Interval Score	Classification
1.	96-100	Excellent
2.	86-95	Very Good
3.	76-85	Good
4.	66-75	Fairly Good
5.	56-65	Fair
6.	36-56	Poor
7.	0-35	Very Poor

(Depdiknas, 2006)

Then, the data which were obtained from the pre-test and the post-test were analyzed quantitatively by using t-test. T-test measures the means of two groups which are statically different from each other (Trochim, 2006). It is also employed due to support or reject the null hypothesis (Andale, 2016). If the null hypothesis is rejected, it means that there is difference between the experimental and control groups after implementing the K-W-L strategy and vice versa. The t-test itself will be operated by using SPSS (Statistical Package for the Social Sciences) version 16 statistics by employing Independent Samples T-test and Paired Samples T-test. The following processes were administered after conducting the pilot test.

3.6.2.1 Normality of Distribution Test

To figure out the appropriateness of statistical analysis techniques, it is important to pay attention to the distribution of the samples through data normality test (Arikunto, 1998, p.308). The score from the pre-test is analyzed before administering the t-test to find out the normal distribution of two groups. The data normality test in this study employed Shapiro-Wilk method in SPSS 16.0 for windows. The criteria of normal distribution according to Priyatno (2012) are:

1. If the significance is more than 0.05, it means the data have a normal distribution.
2. If the significance is less than 0.05, it means the data does not have a normal distribution.

3.6.2.2 Homogeneity of Variance Test

Homogeneity test is used to figure out whether the distribution of the data is homogeneous or not. In this study, it was administered by using Levene's test in SPSS 16.0 for windows. According to Priyatno (2012), there are two criteria.

1. If the significance is more than 0.05, it shows the data have equal variances (homogeneous)
2. If the significance is less than 0.05, it represents that the data have different varriance (not homogeneous) and the null hypothesis is incorrect.

3.6.2.3 The Independent T-test

The independent T-test was employed in this study to find out the difference of the mean scores between the control group and the experimental group before the treatment. In this study, the researcher used SPSS 16.0 for windows. The hypotheses are listed below.

1. H_0 : there is no difference in average scores between control group and experimental group.
2. H_a : there is difference in average scores between control group and experimental group.

Furthermore, the criteria of the independent sample t-test is presented as follows (Priyatno, 2012).

1. If the significance value is below 0.05, then H_0 is rejected and H_a is accepted.
2. If the significance value is above 0.05, then H_0 is accepted and H_a is rejected.

3.6.2.4 The Paired Sample T-test

The paired sample t-test is administered to investigate whether or not the pre-test and the post-test of within each group different significantly. Paired sample t-test in SPSS 16.0 for windows was used in this study. The hypotheses are listed below.

1. Ho : there is no difference in average scores between control group and experimental group.
2. Ha : there is difference in average scores between control group and experimental group.

Furthermore, the criteria of the independent sample t-test is presented as follows (Priyatno, 2012).

1. If the significance value is below 0.05, then Ho is rejected and Ha is accepted.
2. If the significance value is above 0.05, then Ho is accepted and Ha is rejected.

3.6.2.5 The Strength of Association (Eta Squared)

The strength of association or eta squared was employed in this study to determine the degree of association between the groups and the effect of the treatment on the learning score. The calculation of the eta squared proposed by Hatch and Lazarton (1991) can be derived as follow.

$$\eta^2 = \frac{t^2}{t^2 + df}$$

In which

η^2 = the eta squared

t^2 = the squared from t value from the calculation of independent t-test

df = the degree of freedom from the samples (N1+N2-2)

After getting the value of η^2 , the score will be matched with the following scale:

Table 3.4
Interpretation of Eta Squared

Effect size	r value
Small	≤ 0.2
Medium	≤ 0.5
Large	≤ 0.8

(Cohen, 1988 in Becker, 2000)

3.6.3 Analyzing Data from Classroom Observation

In the classroom, the unit of observation included a teacher-student interaction, a specific behaviour by a student (asking a question), student-student interaction (talking), or the entry of another person into the classroom. In this case, the observation was paper-based recording where the observers wrote down the things that appeared to be important. There are two instruments used which are classroom observation checklist and field notes. The elaboration of how to analyze those instruments is presented as follows;

1. Analyzing Data from Observation Checklist

In this study, observation checklist was used in order to know the activities of the students and the teacher in the classroom. Two kinds of checklists were utilized which were checklist to observe the students' activity and checklist to know how the teacher delivers a topic in teaching learning. Observation checklist was used to make the observation process easier. The aspects that were observed were concern to students' attitude towards learning English using KWL strategy and teacher's attitude towards teaching English by using KWL strategy. Observation was carried out five times. The following table was the form of observation checklist occupied in this study.

Table 3.5

Form of Observation Checklist

OBSERVATION CHECKLIST

Name of observer :

Date :

Grade :

Stages	Instructional focuses	Aspects to be observed	Yes	No
Pre-reading	Know (What they know about the topic)	Teacher is expected to...		
		<ol style="list-style-type: none"> 1. Show pictures/videos related to the topic to the students. 2. Ask students about the pictures/videos to trigger their prior knowledge about the topic. 3. Ask students to say anything they know about the topic to make prediction of the text. 4. Ask students to voluntarily write what they know on K chart. 		
		Students are expected to...		
		<ol style="list-style-type: none"> 1. Give responses towards the pictures/videos given 2. Answer the teacher's questions 3. State what they know upon the topic verbally. 4. By teacher guidance, students write it down in K chart. 		

	What (What students want to know about the topic)	Teacher is expected to...		
		<ol style="list-style-type: none"> 1. Give modelling of making questions related to the topic. 2. Ask the students to make questions or what they want to know about the topic to give them purpose for reading 3. Ask the students to say anything they want to know in questions' form about the topic 4. Ask the students to voluntarily write the questions on W chart. 		
		Students are expected to...		
		<ol style="list-style-type: none"> 1. Make questions on what students want to know in the form of questions sentences or phrases. 2. Make inquiry verbally on what students want to know in the form of questions sentences or phrases. 3. Write the questions in W chart guided by the teacher. 		
While-reading	Learned (What students learned after reading the text)	Teacher are expected to...		
		<ol style="list-style-type: none"> 1. Ask students to read the text silently. 2. Ask the students to answer the questions verbally in W coloumn based on the text. 3. Ask the students to write the answer of the questions on L coloumn. 4. Ask the students to write new information 		

		<p>from the text on L column.</p> <ol style="list-style-type: none"> 5. Ask the student to write new vocabularies from the text on L column. 6. Ask the students to identify author's purpose of the text. 7. Ask the students to identify main idea of the text. 8. Ask the students to make connections to themselves, or another text, or the world. 		
		Students are expected to...		
		<ol style="list-style-type: none"> 1. Read the text silently. 2. Answer the questions from W column verbally. 3. Write the answer of the questions on L column. 4. Write new information from the text on L column 5. Write new vocabularies from the text on L column. 6. Identify author's purpose of the text. 7. Identify main idea of the text. 8. Make connections to themselves, or another text, or the world. 9. Share their findings in the classroom 		
Post-reading	Follow up activities	Teacher is expected to...		
		<ol style="list-style-type: none"> 1. Give the test to the students after reading the text to check their understanding. 		

		Students are expected to...		
		1. Complete the test.		

After the observers filling the observation checklist, then the data were summarized to check whether the result matched the research question. Thenceforth, the result was linked with the theories underlying the study.

2. Analyzing Data from Field Notes

To analyze the data from field notes, some steps elaborated by Dörnyei & Ushioda (2011) will be adapted in this study:

1. Transcribing the data from field notes into textual form.
2. Determining which materials might be relevant to the study.
3. Analyzing and classifying the data into categories, divided into the methods the teacher used and students' responses upon the method.
4. Linking the data to the theories underly the study.
5. Interpreting data from classroom observation to address the study and drawing conclusions.

Figure 3.2. Form of Field Notes

FIELD NOTES	
Classroom Observation	
Date	:
Grade	:
Teacher	:
Shift	:
Teacher observer	:
TOPIC	: STUDENTS' INVOLVEMENT IN THE CLASSROOM ACTIVITIES

3.6.4 Analyzing Data from Interview

The interview was devoted to enrich the data and data interpretation. The interview was semi-structured where key questions were prepared and the follow-up questions were done while the interview was conducted. In this case, the patterns and trends could assist the researcher to describe what was happening in the teaching context and gave respondents' opinions, attitudes, feelings, and perceptions about issues of K-W-L. They also assisted to identify patterns and trends that require further exploration using qualitative methods (Cohen, 2000). To analyze the data from the interview, the steps were adapted from Guion et al (2013), as below mentioned:

1. Transcribing the questions and the response from the audio recording,
2. Re-reading the transcripts to identify the themes emerging from the interviewees' answers,
3. Classifying the themes of the answers,
4. Summarizing and interpreting the answers to produce the result,
5. Comparing the results,
6. Linking the results with underly theories and related research,
7. Reporting the results.