

## CHAPTER III

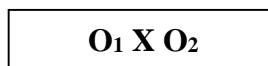
### RESEARCH METHOD

This chapter presents the methodology that will be used in conducting the research and getting the answer from the question in chapter I. This chapter consist of statement of problems, research design, site and respondent, data collection and data analysis.

#### 3.1 Research Design

The research used pre-experimental design. pre-experimental design well suits for studies which focus on the discovery of effectiveness of certain variable to other variable. Experimental approach is characterized by much greater control over the research environment and in this case some variables are manipulated to observe their effect on other variables (Kothari, 2004).

The design which was used in this research is One Group Pre-test Post-test Design. One group pre-test post-test design is one of pre-experimental group which measures dependent variable (pre-test), then stimulus is applied in the classroom (treatment) and remeasures dependent variable (post-test), without any comparison groups. So in this design, the test is tested twice, before the experiment (O<sub>1</sub>) as known as pre-test and after the experiment (O<sub>2</sub>) as known as post-test. By using pre-test, the result can be determined accurately, because it can be easily compared and analyzed with the situation after the treatment is applied in the classroom (Arikunto, 2006). This design is conducted using this scheme:



Information:

O<sub>1</sub>= Pre-test before applying treatment

X = Treatment

O<sub>2</sub> = Post-test after applying treatment

**Figure 1 Pre-test and Post-test Group Scheme (Arikunto, 2006, p. 85)**

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In this study, the researcher acted as the teacher and the facilitator. It means that the researcher prepared and delivered the teaching also at the same time assess the students' progress. The teaching procedure would be conducted in one class only. This group received treatment during the teaching activity. Before that, the teacher assessed students' writing ability by doing pre-test, then the teacher totally applied picture series to scaffold joint construction in teaching and learning process. After the treatment was applied, the teacher measured students' writing ability by doing post-test. Thus, the teacher would be able observe the result of students' pre-test and post-test.

### **3.2 Variable**

This research was conducted using pre-experimental design. This is aimed to look for the effectiveness of picture series to scaffold joint construction to students' writing skills, especially on recount text. Therefore, it can be concluded that in this research, there is a dependent and independent variable. The independent variable is picture series to scaffold joint construction, whereas students' writing skills acts as a dependent variable.

### **3.3 Research Hypothesis**

It is stated that a hypothesis is a prediction, an explanation of the research outcome. Moreover, in order to test the research hypothesis or the alternative hypothesis ( $H_a$ ), the researcher must formulate the null hypothesis ( $H_0$ ) (Fraenkel & Wallen, 2009). A null hypothesis predicts neither a positive nor a negative relationship between writing skills and using picture series to scaffold joint construction. In short, the hypothesis of this research is stated below.

( $H_0$ ) = there is no difference between students' writing skills in pre-test and post-test score.

### 3.4 Population and Sample

In this study, the population is the students of VIII grade in one of junior high school. Since this study is one group pre-test post-test design, the study was conducted using a group of sample. Moreover, the study took the VIII grade students as its participant, because according to syllabus for SMP level, the curriculum where recount text taught is existed in VIII grade curriculum. There was not qualification during the selection of the classes, since the study conveyed randomization.

### 3.5 Data Collection

Creating the instrument is an important works in conducting research, because through instrument the research can convey the gap he/she tries to figure out. However, collecting the data is also important in the process of research, because with collecting the data, the result of the research has just begun. The data collection of the study will be conducted through the comparison of the pre-test and the post-test. Not only that, the result of the questionnaires to obtain information about the students' response will also be collected.

This study was conducted using pre-test, post-test, and also questionnaires. The pre-test and the post-test functioned as the measurement to see whether the students have reached a certain development while using picture series to scaffold joint construction in writing recount text. On the other hand, the questionnaires are used to find out the students' response towards the new modeling in teaching writing.

Arranging instrument is an important task to do in a research. The researcher has to ensure that the instrument contains all the materials to measure what need to be measured. Thus, before the researcher conducting the pre-test and post-test, firstly there would be conducted a pilot test. This pilot test is to assess whether the question that is going to be tested in the pre-test and the post-test is reliable and valid (Arikunto, 2006).

The intention of this pilot test is to ensure that the materials can be administered without variability to the experimental group (Creswell, 2009). After

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being tested in the pilot test, then the instrument is ready to be tested again in the pre-test and post-test.

Unlike pre-test and post-test, the questionnaires need not to have a preceding test to check the reliability and the validity. Questionnaires are very beneficial to obtain as a research instrument (Arikunto, 2006). However, he also implies that there are several things that need to take account before constructing questionnaires

- Arranging the purpose of why using the questionnaires.
- Identifying the variable which will be the variable.
- Describing every variable which will be the sub-variable which more specific.
- Deciding what kind of data which will be collected, and also the collection technique (Arikunto, 2006).

### 1.5.1 Tests

The study was used test in the form of pre-test and post-test. The use of pre-test and post-test is believed effective in case of finding the difference of educational innovation.

The pre-test was conducted to measure the students' prior knowledge and skill about writing comprehension on recount text. The pre-test itself assessed the students to make story based on their experience, the topics were determined by the teacher. The teacher provided four topics and shared those topic to the students randomly. Students were asked to write at least three paragraphs by using the guideline given by teacher. The pre-test was administered to the students before implementing picture series in the classroom.

Meanwhile, the post-test was conducted to examine whether using of picture series to scaffold joint construction is effective to improve the students' writing comprehension or not. Similar to the pre-test that the teacher provided four topics, but the difference in post-test is each topic included picture series. In line with that, the post-test assessed the students to make imaginative recount text. The story may be based on true story but also the imaginative part allows for

embellishment beyond mere facts. Same as the pre-test, in post-test, students were asked to write at least three paragraphs by using series of pictures. The post-test was administered to the students after implementing picture series in classroom.

The test topic would be adjusted to the syllabus and the example of the pre-test and post-test can be seen in Appendix 2.

### 1.5.2 Questionnaires

Questionnaires are very beneficial, especially for this study which aimed to find out the students' responses toward picture series to scaffold joint construction in improving students' writing recount text.

These questionnaires are closed-ended questionnaires (see Appendix 3). Regarding the students' interest and response toward the use of series of pictures in order to improve students' writing skills on recount text, the researcher provided ten questions. The questionnaires are administered after they had finished doing post-test. It consists of questions revealing the students' response toward the implementation of picture series to scaffold joint construction. By employing questionnaires, it is easy to monitor the students' opinion about writing recount text after implementing picture series.

In arranging the close-ended questionnaires, the researcher used *Likert Scale* and the students were asked to choose one of the options. This scale was used to determine people attitude, perception, and opinion. The range option of questionnaires is one until five, which are categorized as *poor(1)*, *fair (2)*, *average (3)*, *good(4)* and *excellent(5)*. If the respondents choose options 4 and 5, it indicates positive response toward picture series picture series to scaffold joint construction in improving students' writing skills.

This form of questionnaire consists of 10 statements with the indicators as follow.

**Table 3.5.2 Indicators of Students' Questionnaires**

No	Indicators	Item Number	Total
1	Response to the use of picture series to scaffold joint construction	1, 5, 6	3
2	Response to the importance of learning recount text using	2, 3, 4, 7	4

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	picture series to scaffold joint construction		
3	Response to the lesson content given in learning recount text using picture series to scaffold joint construction	8, 9	2
4	Response to the role of the teacher in teaching and learning recount text using picture series to scaffold joint construction	10	1
Total			10

## 1.6 Research Procedure

The following is the procedure used in conducting the present research.

### 1.6.1 Organizing Teaching Procedures

In this research, the students samples were taught by one teacher. Before the teaching process, lesson plans were developed and teaching materials were prepared. The materials were taken from various resources. It was also decided to set the keywords that the students had to put in their recount text. The keywords are described as the table follows.

**Table 3.6.1 The Keywords of Recount Text by Using Picture Series**

No.	Idea	Keyword
1	The character in the picture	WHO
2	The event happening in the picture	WHAT
3	The place setting of the picture	WHERE
4	The time setting of the picture	WHEN

### 1.6.2 Administering Pilot Test

Pilot test is aimed to check the validity, reliability and test the difficulty level of the test instrument. The pilot test was given before giving pre-test. The test was given to another class in the same school. The students were given the test and they were asked to do the test based on the instruction that was provided in the test item. The result of the pilot test can be seen in Appendix 3.

### 1.6.3 Administering Pre-test

Pre-test was conducted to diagnose the students' prior ability in writing recount text and it was conducted before teacher gave the treatments. Pre-test

instruments is asking students to make their own experience based on the topic given (see Appendix 2).

#### **1.6.4 Giving Treatments**

After administering the pre-test, the treatments were given to the students samples. In this research, picture series was implemented.

The main procedures of giving treatments are mentioned as follows (see Appendix 1).

1. Teacher shows an example of a picture series to teach recount text. Students are required to arrange the pictures from the earliest to the latest.
2. Teacher and students discuss the vocabulary, action, place, time, manner and description which are related to the topic.
3. Teacher shows again example of picture series which have been arranged well included the full story based on those pictures. Students and teacher discuss about function, generic structure and language features of the example of recount text.
4. Teacher shows four other topics picture series.
5. Based on those series of pictures, students are required to arrange the pictures from the earliest to the latest.
6. Teacher shares those four topics of picture series to the students randomly, one student gets one series of pictures.
7. Students who get same topic are required to discuss the vocabulary, action, place, time, manner and description which are related to the topic.
8. Students are asked to write the recount text based on the topic by using vocabulary, adverb or adjective which have been discussed. One picture of series of pictures can be elaborated at least three sentences.
9. After writing recount text by using picture series, teacher gives comment or feedback to students' text and students revise their draft.

The treatments were given to the students samples in six meetings. The time allocation of each meeting is 90 minutes and it is based on the lesson plan that has been developed before (see Appendix 1).

This following table shows the research schedule.

**Table 3.6.4**  
**The Research Schedule**

No	Date	Activities	Indicators
1	January 9th 2018	Pilot Test Pre-Test: Writing recount text about their experience. (Topic: school, playing with friends, visiting a zoo, going picnic to the park).	- Social function and language features in recount text can be identified.
2	January 10th 2018	Treatment 1 Example: Going to the cinema - Delivering the function of vocabulary, action, place, time, manner and description. - Showing example of recount text (going to the cinema). Treatment 2 - Giving four topics of picture series to the students randomly. - Asking students who get same topic to discuss vocabulary, action, place, time, manner and description conducted in the topic.	- Vocabulary (part of speech) in recount text can be identified. - The purpose of the text can be analysed.
3	January 12th 2018	- Discussing function, generic structure and language features of recount text.	- Social function and language features in recount text can be identified. - Vocabulary (part of speech) in recount text can be identified. - The purpose of the text can be analysed.
4	January 17th 2018	Post-Test: Writing recount text of those topics (first draft). Giving feedback.	- Recount text can be written based on its language features.



5	January 19th 2018	Treatment 3 - Revising students' text (second draft).	- Recount text can be written based on its language features.
6	January 24th 2018	Treatment 4 - Revising students' text (third draft). - Students write final draft. - Administering questionnaires.	- Students' responses can be analysed.

### 1.6.5 Administering Post-Test

After all treatments administered, post-test is conducted to find out whether using picture series makes impact for students' writing comprehension. The post-test instrument is conducting a recount text by using picture series.

### 1.6.6 Administering Questionnaires

Questionnaires were administered to the students right after they had finished doing the post-test. It consists of ten questions which generally revealing the students' response toward the implementation of picture series to scaffold joint construction in writing recount text (see Appendix 2).

## 1.7 Data Analysis

After finishing collecting the data, the next step in research is analyzing the data. Data analysis is an explanation about the types of statistical analysis that will be used during the experiment (Creswell, 2009).

### 1.7.1 Scoring Technique

To acquire valid scores that define students' writing skills, there were scores and criteria which were settled to give brief explanation for every score given in assessing students' writing skills. Thus, the research adopts the rubric proposed by Hyland (2003). The criteria are involving content, vocabulary, generic structure and language features.

Moreover, the details of the writing scale are shown in the following table.

**Table 3.7.1 Scoring Aspects****Adapted from Hyland (2003)**

<b>Aspect</b>	<b>Mark</b>	<b>Criteria</b>
Format and content (40)	31 – 40 Excellent to very good	Fulfill task fully; correct convention for the assignment task; features of chosen genre mostly adhered to; good ideas/good use relevant information; substantial concept use; properly develop ideas; good sense of audience.
	21 – 30 Good to average	Fulfill task quite well although details may be undeveloped or partly irrelevant; correct genre selected; most features of chosen genre adhered to; satisfactory ideas with some development; quite good use relevant information; some concept use; quite good sense of audience.
	11 – 20 Fair to poor	Generally adequate but some inappropriate or irrelevant data; an acceptable convention for the assignment task; some features of chosen genre adhered to; limited ideas/moderate use of relevant information; little concept use; barely adequate development of ideas; poor sense of audience.
	1 – 10 Inadequate	Clearly inadequate fulfillment of task; possibly incorrect genre for the assignment; chosen genre not adhered to; omission of key information; serious irrelevant or inaccuracy; very limited ideas/ignores relevant information; no concept use; inadequate development of ideas; poor or no sense of audience.
Organization and coherence (20)	16 – 20 Excellent to very good	Messages followed with ease; well organized and through development through introduction, body and conclusion; relevant and convincing supporting details; logical progression of content contributes to fluency; unified paragraph; effective use of transitions and reference.
	11 – 15 Good to average	Messages mostly followed with ease; satisfactorily organized and develop through introduction, body and conclusion; relevant supporting details; mostly logical progression

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		of content; moderate to good fluency; unified paragraph, possibly slight over- or under- use of transitions but correctly used; mostly correct references. Message followed but with some difficult; some pattern of organization – an introduction, body and conclusion evident but poorly done; some supporting details; progression of content inconsistent or repetitious; lack of focus in some paragraphs; over- or under- use of transitions with some incorrect use; incorrect use of reference. Message difficult to follow; little evidence of organization – introduction and conclusion may be missing; few or no supporting details; no obvious progression of content; improper paragraphing; no or incorrect use of transitions; lack of reference to comprehension difficulty.
	6 – 10 Fair to poor	
	1 – 5 Inadequate	
	31 – 40 Excellent to very good	Effective use of a wide variety of correct sentences; variety of sentence length; effective use of transitions; no significant errors in agreement, tense, number, person, articles, pronouns and preposition; effective use of a wide variety of lexical items; word form mastery; effective choice of idiom; correct register. Effective use of a wide variety of correct sentences; some variety of sentence length; use of transitions with only slight errors; no serious recurring errors in agreement, tense, number, person, articles, pronouns and preposition; almost no sentence fragment or run-ons; variety of lexical items with some problems but not causing comprehension difficulties; good control of word form; most effective idioms; correct register.
Sentence construction and vocabulary (40)	21 – 30 Good to average	A limited variety of mostly correct sentences; little variety of sentence length; improper use or missing transitions; recurring grammar errors are intrusive; sentence fragments or run-ons evident; a limited variety of lexical items occasionally causing comprehension problems; moderate word form control; occasional inappropriate choice of idiom; perhaps incorrect register.
	11 – 20 Fair to poor	A limited variety of sentences requiring
	1 – 10	

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Inadequate	considerable effort to understand; correctness only on simple short sentences; improper use or missing transitions; many grammar errors and comprehension problems; frequent incomplete or run-on sentences; a limited variety of lexical items; poor word form; innapropriate idioms; incorrect register.
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### 1.7.2 Analysis of Data from Pilot Test

Pilot test was investigated to check the validity and reliability of the instrument. Validity as the extent to which the result of the procedures serve the use for which they were intended (Hatch & Farhady, 1982). In calculating the validity value, the result of students' writing ability test on pilot test was calculated by using SPSS 17 for Windows. Pilot test was given to another class in the same school and the respondents are 35 students.

Additionally, to know the scale of validity result of the instrument, the final result was confirmed to the criteria of the coefficient correlation. The table is as follow.

**Table 3.7.2 The Criteria of Coefficient Correlation**

Coefficient Interval	Interpretation
0.00 – 0.199	Very Low
0.20 – 0.399	Low
0.40 – 0.599	Fair
0.60 - 0.799	High
0.80 – 1.000	Very High

(Sugiyono, 2011)

After testing it, it is found that the item was valid to be tested as pre-test in this research. The test item was writing which has three aspects as scoring. They are format and content, organization and coherence, sentence construction and vocabulary. It showed that format and content of writing test is 0.863; the organization and coherence of writing test is 0.822; and the sentence construction

and vocabulary of writing test is 0.857. The last item was total score of writing test based on all aspects, it showed 1.000 of validity. According to the criteria of coefficient correlation, those results were categorized as very high validity. The value can be seen in Appendix 3.

After calculating the validity value, the researcher also have to calculate the reliability from the instrument. Reliability can be defined as the extent to which a test procedures a consistent result when administered under similar condition (Hatch & Farhady, 1982). The Spearman-Brown formula was used to compute data.

The criteria of the discrimination index of reliability are described in the following table.

**Table 3.7.2.1 The Criteria of Discrimination Index of Reliability**

Coefficient Interval	Interpretation
$r \leq 0.20$	Very Low
$0.20 < r \leq 0.40$	Low
$0.40 < r \leq 0.70$	Fair
$0.70 < r \leq 0.90$	High
$0.90 \leq 1.00$	Very High

(Sugiyono, 2011).

Reliability of the instruments was analyzed by using Cronbach's Alpha in SPSS 17 for Windows. The following table presents the result of statistical computation in reliability test.

**Table 3.7.2.2 The Result of Reliability Test**

Score	Interpretation
0.821	High

The table 3.8.2.2 shows that the reliability coefficient of the research instrument is 0.821. In the present research, when an item reaches  $0.70 < r \leq 0.90$ , it

was categorized as high reliability (Sugiyono, 2011). The result of reliability analysis on statistical computation can be seen in Appendix 3.

### 1.7.3 Normality Distribution Test

Normal distribution test is used to investigate whether a set of data is normally distributed or not. Saphiro-wilk test is used in this research using SPSS 17 for Windows (Field, 2005).

In conducting the normal distribution test, there are three steps that as follows.

1. Setting the alpha level. By default, this research test at 5% level of significance (two tailed). Then, stating the hypothesis:  
Ho : the pre-test score are normally distributed.
2. Analyzing the data by using Saphiro-wilk test through SPSS 17 for Widows.
3. Interpreting the result of the test. If the significant value (Asymp.Sig) is less than 0.05 (Asymp.Sig < 0.05), the normality assumption is rejected. Meanwhile, if the value (Asymp.Sig) is higher than 0.05 (Asymp.Sig > 0.05), the normality assumption is accepted (Field, 2005).

The following table presents the result of statistical computation in normality test.

**Table 3.7.3 The Result of Normality Test**

Saphiro-Wilk		
Statistic	df	Sig.
.962	35	.271

The table 3.8.3 shows that the normality significant value of the research instrument is 0.271. According to Field (2005), if the value (Asymp.Sig) is higher

than 0.05 (Asymp.Sig > 0.05), the normality assumption is accepted. The result of normality analysis on statistical computation can be seen in Appendix 3.

#### **1.7.4 Analysis of Data from Pre-test and Post-test**

The pre-test and post-test scores are analyzed by comparing their means through dependent t-test to find out whether the difference between the pre-test and post-test mean score is significant or not. The dependent t-test is used to determine the degree of relationship between pairs of two or more variables (Hatch & Farhady, 1982).

The dependent t-test is calculated by using SPSS 17 for Windows by comparing the significance value with the level of significance to the test hypothesis. If significance value is more than or equal to the level of significance (0.05), the null hypothesis is accepted and it will be concluded that there is no significance differences between pre-test and post-test. On the other hand, if the significance value is less than the level of significance (0.05), the null hypothesis is rejected and it will be concluded that the result is significantly different between pre-test and post-test (Field, 2005).

Pre-test was conducted to check the students' initial ability in writing comprehension on recount text. Meanwhile, post-test was conducted to find out whether picture series to scaffold joint construction can improve their writing comprehension or not. The respondents on pre-test and post test are 31 students. In analyzing the two, this research used normality distribution test and once the distribution is normal, dependent t-test by SPSS 17 for Windows is needed.

##### **1.7.4.1 The Result of Dependent t-test**

Scores of pre-test and post-test are analyzed through dependent t-test by using SPSS 17 for Windows. It is to find out whether there is a significant difference between the students' score on pre-test and post-test. The hypothesis is stated as follows.

$H_0$  : There is no significant difference between pre-test and post-test score.

The result of dependent t-test is presented in the following tables.

**Table 3.7.4.1 The Result of Dependent t-test**

	Paired Differences			t	Df	Sig.(2-tailed)
	Mean	Std. Deviation	Std. Error Mean			
Pre-test Post-test	10.613	4.631	0.832	12.760	30	.000

The result computation shows that the mean of post-test score (84.74) is higher than the mean of pre-test score (74.13). The result of dependent t-test showed that probability (sig. 2-tailed) < level of significance ( $0.000 < 0.05$ ). It means that the null hypothesis of no difference between pre-test and post-test score was rejected.

### 1.7.5 Analysis of Data from the Questionnaires

The questionnaires used in the study are close-ended questions, in which the researcher decided the options of the expected answers. Moreover, in this study, questionnaires were purposed to investigate the students' responses toward the implementation of picture series to scaffold joint construction in writing recount text. The questionnaires were used and adapted version of *Likert scaling*. In arranging the close-ended questionnaires, the researcher used *Likert Scale* and the students were asked to choose one of the options. This scale was used to determine people attitude, perception, and opinion. The range option of questionnaires is one until five, which are categorized as *poor(1)*, *fair (2)*, *average (3)*, *good(4)* and *excellent(5)*. If the respondents choose options 4 and 5, it indicates positive response toward picture series to scaffold joint construction in improving students' writing skills.

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If the respondents choose options 4 and 5, it indicates positive response toward picture series to scaffold joint construction in improving students' writing skills. Students' response toward using picture series to scaffold joint construction in improving students' writing skills would be presented in percentage (%). According to Kuntjaraningrat (Lestari, 2011), the calculation results can be interpreted as follows.

**Table 3.7.5 Percentage Interpretation of Questionnaires**

<b>Percentage</b>	<b>Interpretation</b>
0%	No one
$1\% \leq P < 26\%$	Only a few
$26\% \leq P < 50\%$	Nearly a half
50%	A half
$51\% \leq P < 76\%$	Most of them
$76\% \leq P < 100\%$	Nearly all of them
100%	All of them