

## **CHAPTER III**

### **RESEARCH METHOD**

#### **A. Time and Place of Study**

This study needs about two months to collect all of the data accurately and briefly. The data are needed to make this study reasonable and acceptable. The location of this study is at MAN Katingan Hilir.

#### **B. Research Type**

A quantitative approach was used in this study. Ary et al, stated that quantitative research is inquiry employing operational definitions to generate numeric data to answer predetermined hypotheses or questions.<sup>29</sup>

This study used a quantitative approach. It was because the aimed of the study is to measure the usage of Project Based Learning by Cartoon Story Maker in teaching recount text at tenth-grade students of MAN Katingan Hilir needed statistical calculation which using quantitative approach.

#### **Research Design**

The type of this study is quasi-experimental study by utilizing two-group Pre-Test/Post-Test Design. Mohammad Adnan Latif stated that this design selects two classes out of all the existing classes which are of equivalent level. Randomly select one of the classes into the experimental group and the other one into the

---

<sup>29</sup>*Ibid* , P 648

control group. Give the experimental treatment to the experimental group and the control treatment to the control group<sup>30</sup>.

**Table 3.1**

**The Design of Quasi-Experimental Research**

Groups	Pre-Test	Treatment	Post-Test
Experimental Group	O1	X	O2
Control Group	O3		O4

In which

O1 : Pre-test of the experimental group

O2 : Post test of the experimental group

O3 : Pre-test of the control group

O4 : Post test of the control group

X : The treatment that the researcher gave to the experimental group  
by using Project-based learning with cartoon story maker to teach<sup>31</sup>

The researcher used quasi-experimental design because want to consolidate the method and want to gave new method with the teachers in the school but the researcher is not the real teacher of that school so that the researcher did not have

---

<sup>30</sup> Mohammad Adnan Latief, *Research Methods on Language Learning An Introduction*, Malang; Universitas Negeri Malang, 20 14, P. 96

<sup>31</sup> Syamsudin, Vimala.S, Damaianti, *Metode Pendidikan Bahasa*, Bandung : PT. Remaja Rosdakarya, 2011, h. 163

the authority to arrange the students into new groups such as the true experiment study. In this experiment, the researcher was taught the students directly. Firstly, the researcher was given a pretest to students before using Cartoon Story Maker. The researcher was taught one class for four times, so two class for eight times . And then, there was be Posttest in order to measure the students' score after treatment.

### **C. Population and Sample**

Sugiyono states population is the object or subject that have some qualities and characteristics that are chosen to be learned and to be concluded by the researcher.<sup>32</sup> Sampling is the process of selection number individuals for a study in such a way that the individuals represent the larger group from which they are selected. This study will use census sampling. Census sampling is a necessary some cases like population census.<sup>33</sup> The sample of this study is the tenth-grade students of MAN Katingan Hilir. The sample consists of students.

The population of this study is two classes. Each class has 33 students and 36 students, so the population is about 69 students. The researcher used all the population into a sample the class to be experiment class and control class of the tenth-grade students of Man Katingan Hilir as the sample. Class X A as an experimental class, which consists of 33 students and class X-B as control class, which consists of 36 students.

---

<sup>32</sup> Sugiyono, *Metode Penelitian Pendidikan Pendekatan Kualitative, Kuantitative, dan R&D*, Bandung : Alfabeta, 2010,h. 117

<sup>33</sup> Mohammad Adnan Latief, *Research Methods on Language Learning* 2nd, Malang; Universitas Negeri Malang, 20 14, P. 185

**Table 3.2****The Number of the Students in MAN Katingan Hilir**

<b>No</b>	<b>Class</b>	<b>Male</b>	<b>Female</b>	<b>Total</b>
1	X A	15	18	33
2	X B	11	25	36
<b>TOTAL</b>				<b>69</b>

**D. Instrument of Study**

Instruments of the study are very needed in research. It is because the instruments are tools to get the data of the study, in which the data are the important things to help the researcher in answering the problem of the study and also to prove the hypothesis. The data also needed to find the aim of the study.

## 1. Observation

The researcher did an observation to know how the students' attitude while teaching learning process is going on. The observation is purposed to get specific data, they were:

- a. The general description of the location of the study
- b. The syllabus and lesson plan for the school
- c. The number of class
- d. The number of students

## 2. Test

Test which sets out to measure students' performance as fairly as possible without anyway setting traps for them can be effectively used to motivate the student.<sup>34</sup> To know how well the students do the writing recount text and how well implement Cartoon Story Maker as media in recount text. The test consisted of the instructions and statement and subject addressed in their writing and the alternative topics to be chosen. In this sense, the students were assigned to choose one of the topics that interest them. They were asked to develop the topic into a text containing about 100-150 words. The allocated time to do each writing test is 90 minutes. The test item was showed in appendix 3 and adapted from the book of Pathway to English Senior High School Grade X by M Sudarwati and Eudia Grace, Erlangga Publisher 2013. There was two test in this research are pre-test and post-test;

a. Pre-test

A pre-test is a preliminary test that purposes to measure the students' scores in writing skill before having treatment.<sup>35</sup> The student was given the writing test with the instruction to choose on of the following topics about the experience that the students' interested consisted of identification and generic structure of the text.

b. Post-test

Post-test is a test given after a lesson period of instruction to determine what the students' have learned.<sup>36</sup> The purpose of post-test is to measure the

---

<sup>34</sup>J.B Heaton, *Language Testing*, San Fransisco:Longman, 1987, P 1

<sup>35</sup>AnasSudijono, *Pengantar Evaluasi Pendidikan*, Jakarta: PT Raja Grafindo Persada, 2007 P 69

<sup>36</sup>*Ibid* P 70

students' scores in writing skill after the treatment has to be done by writer. Post-test give to the students after their learning about recount text with Cartoon Story maker or no. The researcher asked the students to produce the recount test in traditionally for the control group and asked the students in the experiment group to formulate their recount text on the Cartoon Story Maker group. Cartoon Story Maker was not the new thing on students' life so that it would be easy for the students in activities on the computer. The writer asked students to open their computer and open, then the students had to post the recount text on the computer using Cartoon Story Maker.

c. Documentation

Documentation here is the collecting data by using written documents that are gotten and or related to the data that is needed. The data is needed are:

- a. Photo of teaching learning the process in the class.
- b. The students' English score.
- c. The students' assignment based on the students' writing on Cartoon Story Maker.
- d. Lesson plan.
- e. Syllabus.

1. Instrument validity

Validity is the extent to which one has really observed what one set out to observe, and the extent to which one can generalize one's findings from

the subjects and situations to other subjects and situations.<sup>37</sup> Charles, CM. states that “ Scores obtained from a test of critical thinking are valid if they represent the ability to think critically, as distinct from knowledge of vocabulary or reading skill<sup>38</sup>. The validity of a test is the extent to which it measures what is supposed to measure and nothing else.<sup>39</sup> An instrument is considered to be a good one if it meets some requirement. One of them is validity. Assessing the validity of score-based interpretations is important to the researcher because most instruments used in educational and psychological investigations are designed for measuring hypothetical constructs. Recall that constructs such as intelligence, creativity, anxiety, critical thinking, motivation, self-esteem, and attitudes represent abstract variables derived from theory or observation.<sup>40</sup>

Validity of this study is distinguished into some as follows :

a. Face Validity

The types of face validity, if the test items look right to other testers, teacher, indicators, and test. The types of test items, which will be used in this research, can be suitable for the others at the same level is Islamic Senior High school

For face validity of the test items as follow:

1). The test is written test in form of essay.

---

<sup>37</sup> David Nunan, *Research Methods in Language Learning*, p. 232

<sup>38</sup> Mohammad Adnan Latief, *Research Methods On Language Learning An Introduction* (Universitas Negeri Malang), P. 223

<sup>39</sup> Heaton, *Writing English Language Tes*. (England: Longman, 1987), p. 153

<sup>40</sup> Donald Ary , *Introduction to Research in Education*, P. 244

- 2). The evaluation of essay tests based on the scoring system.
- 3). Kind of the essay test is writing recount text.
- 4). The Language of items uses English

#### b. Construct Validity

According to Sudijono, Construct validity can define as the construction, framework or invention; the writer constructs the item in this study by comparing the aspect of thinking in the item with the aspect of thinking in Base Competence in Syllabus of Senior High School for the Tenth Grade Students. The writer comprises the cognitive, affective and psychomotor aspect of free writing item with the aspect of thinking in writing base competence. The writer also examines their writing from content, organization, sentence structure, and grammar.

This Construct Validity evidence comes from the assessment instrument used. An assessment instrument is always designed to measure specific knowledge or skill of a group of people. No single assessment instrument can be used to measure everything from everybody. So, the development of an assessment instrument must always be started from the defined construct of the knowledge or skill to be assessed.<sup>41</sup>

According to Jack R. Fraenkel construct validity is the broadest in scope compared with other validity because it involves many

---

<sup>41</sup> Mohammad Adnan Latief, *Research Methods On Language Learning An Introduction*, (Universitas Negeri Malang), P. 225

procedures including content validity and criterion validity. Validity test used product moment correlation formula.

$$r_{xy} = \frac{N (\sum XY) - (\sum X) (\sum Y)}{\sqrt{N(\sum X^2) - (\sum X)^2} \mid n(\sum Y^2) - (\sum Y)^2}$$

Where

$r_{rx}$  : The correlation coefficient of an item

$N$  : Number of subjects

$X$  : Score an item

$Y$  : Total score

The score  $r$  then consulted with  $r_{table}$  ( $r_{critical}$ ). When calculated from the above formula is larger from  $r_{table}$  then the item is valid and otherwise.

### c. Content Validity

Content validity demands the appropriateness between the ability to be measured and the test being used to measure it.<sup>42</sup> The writer uses essay test for students. The students in this study would write recount text from essay test instruction, so the test would really measure the writing ability of the students. Content validity is not separated from construct validity.<sup>43</sup> The essay test is suitable with the syllabus of English writing for tenth-grade students at MAN Katingan Hilir.

---

<sup>42</sup> M.Soenardi Djiwandono, *Tes Bahasa Pegangan Bagi Pengajar Bahasa*, (Jakarta: PT Indeks), p. 92.

<sup>43</sup> Mohammad Adnan Latief, *Research Methods On Language Learning An Introduction*, (Universitas Negeri Malang), P. 227

## 2. Instruments Reliability

Reliability is a necessary characteristic of any good test.<sup>44</sup> In rather a reliability, there are inter-rater reliability and intra-rater reliability. Inter-rater reliability is the consistency of the judgment of several raters on how they see a phenomenon or interpreted the responses of the subject.<sup>45</sup>

In this study, the writer applies inter-rater reliability; two raters would employ to score the students' writing. The two raters are the researcher self and one of English teacher of MAN Katingan Hilir.

To Combine both these values the researcher will use product moment correlation with the following formula :

$$r_{xy} = \frac{N (\sum XY) - (\sum X) (\sum Y)}{\sqrt{N(\sum X^2) - (\sum X)^2} \mid n(\sum Y^2) - (\sum Y)^2}$$

Where

$r_{rx}$  : The correlation coefficient of an item

N : Number of subjects

X : Writer self

Y : English teacher of MAN

## E. Data Collection Procedure

Collecting the data is the most important activity in the research in collecting data.

---

<sup>44</sup> Heaton, *Writing English Language Test*, p. 155

<sup>45</sup> Ibid, p.37

There some steps that will be taken by the researcher as follow:

1. The researcher makes research instrument.
2. The researcher asked permission from the institute.
3. The researcher comes to MAN Katingan Hilir.
4. The researcher chooses two class from tenth-grade students, they are X A as an experimental class that consists of 33 students X B as control class that consists of 36 students.
5. The researcher gave pre-test to students between experimental and control class.
6. The researcher gave material project based learning using cartoon story maker

Table 3.3

Treatment teaching writing using Project Based Learning by Cartoon Story Maker

Meeting : 1

No		Teaching Procedure
1	Pre-Writing	Teachers give the students example about recount text with using cartoon  Teacher explain about recount text

2	Writing	The students write dialog about recount text with group in paper
3	Editing	The students check the dialog if there are wrong

Meeting : 2

No		Teaching Procedure
1	Pre-Writing	Teachers give the students example about recount text with using essay  Teacher explains how to make essay
2	Writing	The students write essay about recount text from the dialog they write yesterday in an individual in paper
3	Editing	The students check essay if there are wrong

Meeting : 3

No		Teaching Procedure
1	Pre-Writing	Teacher gives the students example about recount text with Cartoon  Teacher explains how to make cartoon with using cartoon story maker application  Then Teacher Instal application in laboratory computer

2	Writing	The students make a dialog cartoon used application in computer with friends
3	Editing	The students check cartoon if there are wrong
4	Revising	After checking the students Revise the cartoon

Meeting : 4

No		Teaching Procedure
1	Pre-Writing	The Teacher gives them cartoon
2	Writing	The students make an essay from cartoon in individual
3	Editing	The students check essay if there are wrong
4	Revising	After checking the students Revise the essay

#### Treatment teaching writing by Picture

Meeting : 1

No	Steps	Teaching Procedure
1	Pre-Writing	Teacher gives the students example about recount text with picture  Teacher explain about recount text

2	Writing	The students make a sentence based on picture
3	Revising	The students check the sentence if there are wrong  The Students write in front of the class, the last check together.

Meeting : 2

No		Teaching Procedure
1	Pre-Writing	Teacher gives the students example about recount text with used picture.  Teacher explains past tense
2	Writing	The students make a sentence again
3	Revising	The students write in front of class to check together with teacher and students.

Meeting : 3

No		Teaching Procedure
1	Pre-Writing	Teacher gives the students example about recount text with used paragraph
2	Writing	The students make a paragraph about recount text
3	Editing	The students check paragraph if there are wrong

Meeting : 4

No		Teaching Procedure
1	Pre-Writing	Teacher gives the students example about recount text with picture
2	Writing	The students make an essay about recount text based on the picture
3	Editing	The students check essay if there are wrong
4	Revising	After check, the students revise the essay

7. The researcher gave material by using picture only in teaching Recount text to the control group.

8. The researcher gave post-test to students between experimental and control class.

9. Analyzing the test.

#### **F. Data Analysis Procedures**

According to Bogdan and Sugiyono stated that “data analysis is the process of systematically searching and arranging the interview transcript, field notes, and

other materials that are accumulated to increase our own understanding and enable you to present what you have discovered to others”’.<sup>46</sup>

To get the answer the problem the study of the effect of project-based learning using cartoon story maker in recount text at the students’ writing skill at tenth graders students of MAN Katingan Hilir. The writer used a statistical test to answer the problem of the study. In order to analyze the data, the writer did some way procedures:

1. The researcher gave tests (pre-test and post-test) to the students of the tenth graders of MAN Katingan Hilir
2. The researcher collected the score of the students works sheet result.
3. The researcher tabulated the data into the distribution of frequency of score table, then find out the mean of students’ score, standard deviation, and standard error of variable X1 (Experiment group) and X2 (Control group)
4. The researcher analyzed the normality test

It used to know the normality of the data that is going to be analyzed whether both groups has normal distribution or not.

Calculation result of  $X^2_{\text{observed}}$  is compared with  $X^2_{\text{table}}$  by 5% degree of significance using the criteria:<sup>47</sup>

If  $X^2_{\text{observed}} \geq X^2_{\text{table}}$ , so the distribution list is not normal.

If  $X^2_{\text{observed}} \leq X^2_{\text{table}}$ , so the distribution list is normal.

5. The researcher analyzed the homogeneity test

---

<sup>46</sup>Sugiyono, *Metode Penelitian Kualitatif*. Bandung:Remaja Rosda Karya. 1987, P 90

<sup>47</sup>Riduwan, *Metodedan Teknik Menyusun Thesis*, P 182

It used to know whether experimental group and control group that decides, come from a population that has a relatively same variant or not.

Notice:

$X^2_{\text{observed}} \leq X^2_{\text{table}}$  is homogeneity.

$X^2_{\text{observed}} \geq X^2_{\text{table}}$  is not homogeneity.

If calculation result of  $X^2_{\text{observed}}$  is lower than  $X^2_{\text{table}}$  by 5% degree of significance, it means both groups has the same variant.

6. The researcher calculated the data by used the  $t_{\text{test}}$  to test the hypothesis of the study using manual calculation and SPSS 21. The program, whether the effect project based learning using cartoon story maker give effect to the students' writing recount text scores or not. To examine the hypothesis, the writer used  $t_{\text{test}}$  formula. T-test is used to measure whether cartoon story maker gives effect to the students writing recount text score using formula as follows:<sup>48</sup>

$$t_o = \frac{M1 - M2}{SEm1 - m2}$$

**Note:**

$M1 - M2$  : The difference of two means

$SEm1 - SE m2$  : The standard error of the difference between two means

To know the hypothesis accepts or rejects using the criteria;<sup>49</sup>

If  $\alpha = 0.05 < \text{Sig}$ ,  $H_0$  accepted and  $H_a$  rejected

---

<sup>48</sup> Anas Sudijono, *Pengantar Statistik Pendidikan*, , P.284

<sup>49</sup> Riduwan & Sunarto, *Pengantar Statistika*, Bandung: Alfabeta, 2012, P 245

If  $\alpha = 0.05 > \text{Sig}$ ,  $H_a$  accepted and  $H_o$  rejected

Interpreted the result of  $t_{\text{test}}$ , the writer accounted the degrees of freedom (df) with the formula:<sup>50</sup>

$$df = (N1 + N2 - 2)$$

Where:

Df : Degrees of freedom

N1 : Number of subject group 1

N2 : Number of subject group 2

2 : Number of variables

After that, the value of  $t_{\text{test}}$  consulted on the  $t_{\text{table}}$  at the level of significance 1% and 5%. In this research, the writer used the level of significance at 5%. If the result or  $t_{\text{test}}$  was higher than  $t_{\text{table}}$ , it means  $H_a$  was accepted. But if the result of  $t_{\text{test}}$  was lower than  $t_{\text{table}}$ , it meant  $H_o$  was accepted.

7. The researcher concluded data analysis.

**Table 3.4**

**The Criteria Of Writing Recount text Element**

No	The Element Of Writing	Score
1	Content	1-30
2	Grammar	1-25
3	Organization	1-20
4	Vocabulary	1-20
5	Mechanic	1-5
	Total Score	100

<sup>50</sup> Anas Sudijono, *Pengantar Statistik Pendidikan*, Jakarta: Rajawali Press, 2012, P 285

**Figure 3.1****Data Analysis Procedure**