

## CHAPTER III

### RESEARCH METHODOLOGY

In this chapter, researcher explains about the methodology of the research and data collection. The research also explains about the instrument while observing the object.

#### A. APPROACH AND RESEARCH DESIGN

Qualitative and quantitative are the most popular approaches in research. According to James Dean Brown and Rodgers, they stated that qualitative research approach is typically the label for non-numerical research and quantitative research approach is a numerical research, a data conversion is needed for this approach. He also stated that experimental or non-experimental is data collection method, qualitative or quantitative is type of data result, and statistical or interpretative is type of analysis conducted on the data.<sup>39</sup> In another analysis by Grotjahn, research can be classified in terms of *data collection method* (experimental vs. non-experimental), *data types* (*qualitative vs. quantitative*), and *data analysis procedures* (statistical vs. interpretive).<sup>40</sup> The researcher will use an experimental research to design the study which analysis about the effectiveness of using *Storybird* in teaching learning process of writing narrative text as classroom and non calssroom activity in SMA Negeri 1 Gedangan. In

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<sup>39</sup> Brown, J. D., and Rodgers, T. S. *Doing Second Language Research*. New York: Oxford University Press. 2003, p. 15s

<sup>40</sup> Grotjahn, R. *On the Methodological basis of Introspective methods*. In C. Faerch & G. Kasper (eds), *Introspection in second language research*, (Clevedon, UK, 1987), pp.54-81

conducting this research, the researcher will apply an experimental research.

Experimental research is a scientific method. It is oriented to the future in the sense that the researcher is seeking to evaluate something new.<sup>41</sup> According to Donald Ary, an experimental design is the general plan for carrying out a study with an active independent variable. In this research, quasi-experimental design will be considered because they allowed researcher to reach reasonable conclusions although not fully control. It means that the researcher have limitation to control the population because of the teacher of English course suggested two classes to conduct this research. Quasi-experimental designs are similar to randomized experimental designs in that they involve manipulation of an independent variable but differ in that subjects are not randomly assigned to treatment groups.<sup>42</sup> Quasi-experimental design involves an independent variable manipulation but the subject or the control group and the experimental group can be taken randomly. In order to know whether *Storybird* application is effective to teach English especially writing comprehension, the researcher compares two groups, the control group and the experimental group. Those groups will be given pre-test and post-test tests for each group. The following chart was represented the following:

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<sup>41</sup> Singh, Y.K. *Fundamental of Research and Methodology and Statistic*. New Age International. 2006, p.134

<sup>42</sup> Ary, Donal. *Introduction to Research in Education Eight Edition*. (Canada: Wadsworth Cengage Learning, 1990) p. 316

**Table 3.1 Design of Experimental Research**

Groups	Random	Pre-Test	Treatment	Post-Test
Experimental group	R	O1	X	O2
Control group	R	O3		O4

Adopted from: Sugiyono. *Metode Penelitian Pendidikan*, 2011

In which:

R : Random Sampling

O1 : Pre-Test of experimental group

O2 : Post-Test of experimental group

O3: Pre-Test of Control group

O4 : Post Test of control group

X : Treatment that given by the researcher to the experimental group by using *Storybird*.

## **B. RESEARCH HYPOTHESIS**

This study consists of two hypotheses, they are:

**Ha:** There is significant difference between students' English writing ability taught by using *Storybird* and not using *Storybird* at the Tenth grade in SMA Negeri 1 Gedangan, Sidoarjo.

**Ho:** There is no a significant difference between students' English writing ability taught by using *Storybird* and not

using *Storybird* at the Tenth grade in SMA Negeri 1 Gedangan, Sidoarjo.

Explanations:

$H_a$  will be accepted if  $t\text{-value} < t\text{-table}$

$H_o$  will be accepted if  $t\text{-value} > t\text{-table}$

$T\text{-table}$  is the score gotten from  $t$  distribution, while  $t\text{-value}$  is the score gotten from calculation using the formula of  $t\text{-test}$ .

### C. RESEARCH VARIABLE

A variable in research is refers to a person, place, thing or phenomenon that the researcher try to measure.<sup>43</sup> There are two variables in this research. Those are:

#### 1. Independent Variable

Independent variable means the variable that is stable and unaffected by the other variables that the researcher trying to measure. The independent variable in this study is “the implementation of *Storybird*” in teaching learning process of writing narrative text to the Tenth grade students of SMA Negeri 1 Gedangan, Sidoarjo.

#### 2. Dependent Variable

Dependent variable means the variable that depends on other factors that are measured. These variables are expected to change as a result of an experimental manipulation of the independent variable. The dependent variable of this study is “teaching learning process of

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<sup>43</sup> *Organizing Your Social Science Research Paper: Independent Variable and Dependent Variable*. University of Southern California. Retrieved from <http://libguides.usc.edu/writingguide/variables> accessed on January 31st 2017.

writing narrative text” of the Tenth grade student of SMA Negeri 1 Gedangan, Sidoarjo.

#### **D. SETTING OF RESEARCH**

The setting of this study is in Tenth grade student of SMA Negeri 1 Gedangan, Sidoarjo. In Tenth grade, the researcher uses 2 classes. The researcher chooses first class to be the experimental group which will be taught using *Storybird* application and second class as the control group which will be taught using the conventional teaching strategy (paper media).

SMA Negeri 1 Gedangan, Sidoarjo is located on street Jalan Raya Sedati Km.2 Gedangan, Wedi, Kabupaten Sidoarjo. In addition, the time setting consist of time allocation for pretest, treatment that is given to examine the treatment effect and post-test. This study will be held in 3 times meeting. Each meeting has 2 x 45 duration time. Day and time will be adjusted with the schedule of English subject in each class.

#### **E. POPULATION AND SAMPLE**

##### **1. Population**

The population of this study is the Tenth grade at SMAN 1 Gedangan, Sidoarjo. The Tenth grade consists for about 72 students that are divided into two group, control group and experimental group.

##### **2. Sample**

The researcher takes two classes for this study. The sample of this study is for about 72 students from 2 classes of SMAN 1 Gedangan. The researcher takes two classes which have an equal English score as the sample, and then

being divided into two groups (control group and experimental group) to examine the treatment effects. First class will be an experimental group and second class is control group. Researcher hopes that the sample can be representative sample for all second year students in SMA Negeri 1 Gedangan, Sidoarjo in the use of *Storybird* to know the effectiveness of *Storybird* in students' writing skill.

## **F. RESEARCH PROCEDURE**

The data type of this research is quantitative data. Meanwhile, the quantitative data is obtained from pre-test and post-test result of student score between the students who are taught using *Storybird* and the students who are taught using conventional teaching model. Before conduct the research, firstly researcher makes research plan. Secondly the researcher makes pre-test and post-test. Thirdly, the research asks for permission to the head of SMA Negeri 1 Gedangan, Sidoarjo to conduct a research schedule and class which will be the sample of the research. After the researcher get the deal with the teacher for the plan of learning, researcher conduct three steps of the quantitative method. Those steps are:

### **1. Planning**

In planning phase, the researcher and the teacher shared information. The writer identifies and diagnoses students' writing problem occurred in the classroom. It covers determining the problems, research design, designing lesson plan and setting the criteria of success.

In determining research design, it refers to the students' problem. In this case, the main proble of the students is they were difficult to generate their ideas when they get started to write. Therefore, the researcher thought

that by giving them a media to solve this problem in writing.

## 2. Pre Test

After getting two classes, it will be divided into two groups; one class as an experimental group is taught using *Storybird* in teaching writing and one class as control group is taught using conventional teaching. Then, the researcher gives pre-test to control group and experimental group. The purpose of this test is to know students ability for their writing skill. The result of *pre-test* between control group and experimental group is used to identify the students writing skill before the treatment.

## 3. Treatment

After giving the pre-test for both control group and experimental group, experiment implementation is held by giving treatment through using *Storybird* in writing classroom activity. *Storybird* is given to first class or experimental group and second class or the control group is taught using conventional teaching. During the experiment session, the experimental group will be given PowerPoint presentation and tutorial through online classroom to know what is *Storybird* and its benefit in teaching learning process. Besides, it is purposed to know how to access, register and use the *Storybird*. Then, the researcher starts to give some writing project using *Storybird* application, whether the control group will be given treatment using conventional teaching strategy. The researcher will give some knowledge about narrative text and then gives students writing project using worksheet

paper that will has been provided. The treatment will be given until 3 times. While the treatment done, the English teacher as an observer in this study will observe the students' condition and activity during the teaching learning process. The observation checklist that will be used by observer will has been by researcher.

#### **4. Post Test**

After students will have been given treatment, then the post-test will be given. Post-test was given to know students' result of writing ability in narrative after the treatment. The result of the test was scored and calculated statistically. After the researcher got the pre-test and post-test result from both experimental and control class, the researcher do the data analysis to find out whether there is an improvement in students' writing skill between both experimental and control class.

#### **5. Giving Questioner**

In the same day in giving post test, the researcher will give students a questioner to be answered. The questioner consists 15 questions about students' responses toward using *Storybird* application in teaching learning process of writin narrative. The questioner only will be given in experimental class. The questioner will be given after students finish their post test.

### **G. DATA COLLECTION TECHNIQUE**

The technique of collecting the data is Experimental method. It conducts the test before (pre-test) and after (post-test) the treatment. The test is given before and after the



treatment to measure the effectiveness of *Storybird* application to improve students' writing skill in narrative. During the treatment, the teacher does a class observation of experimental class and control class. The aim of this observation is to observe students' responses in the implementation of *Storybird* in classroom activity and students' responses of conventional teaching in control class. Besides, to know what students' responses toward using *Storybird* application, researcher also will use questioner as an instruments to support the observation result.

## H. INSTRUMENTS OF RESEARCH

Instrument is a tool which change a physical variable of measurement to a form of recording that is suitable. In order to measure the data, to have consistent meaning, it is general to employ a standard system of units by which measurement to be compared.<sup>44</sup> According to Ibnu Hadjar, instrument is measurer to get quantitative information about variant of variable characteristic objectively.<sup>45</sup> In this research, the researcher uses pre-test and post-test as the instruments prepared to get the data. Besides, the researcher also uses observation checklist and questioner to know students' responses.

This study, researcher uses two types of test, those are pre-test and post-test. The pre-test will be given before the treatment and the post-test will be given after the treatment. Pre-test will be given to measure students' writing skill before

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<sup>44</sup> Hasman, R. J. *Characteristic of Instrument*. Massachusetts Institute of Technology: CRC Press. 2000, p.1

<sup>45</sup> Hadjar, I. *Dasar-dasar Metodologi Penelitian Kwantitatif dalam Pendidikan (Basics of Quantitative Research Methodology in Education)*. Jakarta: Raja Grafindo Persada, 1996, p. 60

treatment and the post-test will be given to measure students writing skill after treatment.

### 1. Writing Score Rubric

In this study, the researcher use score rubric to measure the result of students' pre test and post test. This rubric is appropriate toward aspects of narrative text that include *Setting, Characteristic and Plot, and Language*. The researcher chose the *scoring rubric for writing narrative text* because the indicator for each category has represented the generic structure of narrative text.

**Table 3.2 Writing Scoring Rubric**

**SCORING RUBRIC FOR WRITING NARRATIVE TEXT**

No	Category	Criteria and The Score			
		4	3	2	1
1	<u>Setting</u> - is described in details - has a sense of atmosphere. - uses a wide range of vocabulary to convey atmosphere	Meets all category	Meets two of the category	Only meets one of the category	Does not meet the category
2	<u>Characteristic and Plot</u> - are described in details - brings the sense of their personality and relationship - bring the sense of the protagonist's feelings - present the complication among character - present the resolution as anti climax	Meets all the category	Meets three to four of the category	Meets two of the category	Meets only one of the category
3	<u>Language</u> - consistently use past tense - use correct punctuation for	Meets all the category	Meets four to five of	Meets two to three of	Meets only one of the

	the dialogs - has a balance of narration and dialogs - use correct transition to make the story logical and easy to follow - has no spelling and grammar errors - use wide range of descriptive vocabulary		the category	the category	category
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## 2. Observation Checklist

The use of this technique is aimed to describe the subject of the research at a particular time. The researcher observed the teaching and learning process during the treatments. The observation checklist covers the role of teaching writing using *Storybird* in class. Besides, the observation checklist is to observe students' response and activity during teaching learning process. The researcher makes the observation checklist in the scale 1,2,3,4 about the problems or class activity that the researcher tries to investigate.

**Table 3.3 Observation Checklist for Students of Control Class**

### Observation Checklist for Students of Control Class (Implementation of Conventional Model)

#### Petunjuk

Berikan tanda centang (√) pada kolom “Ada” dan “Skor” bila deskriptor yang disediakan tampak sesuai dengan kriteria.

No	Aspek yang diamati	Ada	Skor			
			1	2	3	4
1	Siswa mempersiapkan diri menerima pelajaran.					
2	Siswa memperhatikan penjelasan guru saat proses pembelajaran					

3	Siswa bertanya jawab dengan guru					
4	Siswa mengamati gambar yang ditunjukkan guru					
5	Siswa berdiskusi dengan teman sebangkunya					
6	Siswa bekerjasama dalam kelompok					
7	Siswa mengerjakan tugas yang diberikan guru					
8	Siswa menyelesaikan kegiatan pembelajaran dengan tetib dan tenang					
Total Skor						

Skor maksimal : 32

Nilai Akhir :  $\frac{\text{Skor perolehan}}{\text{Skor maksimal}} \times 100$

**Table 3.4. Observation Checklist for Experimental Class**

**Observation Checklist for Students of Eksperimen Class  
(using *Storybird* Application)**

**Petunjuk**

Berikan tanda centang (√) pada kolom “Ada” dan “Skor” bila deskriptor yang disediakan tampak sesuai dengan kriteria.

No	Aspek yang diamati	Ada	Skor			
			1	2	3	4
1	Siswa mempersiapkan diri menerima pelajaran.					
2	Siswa memperhatikan penjelasan guru saat proses pembelajaran					
3	Siswa bertanya jawab dengan guru					
4	Siswa mengamati media pembelajaran yang ditunjukkan guru					
5	Siswa mengikuti langkah-langkah pembelajaran dengan baik sesuai dengan model aplikasi <i>Storybird</i>					
6	Siswa bekerjasama dalam kelompok					
7	Siswa mengerjakan tugas yang diberikan guru					
8	Siswa menyelesaikan kegiatan pembelajaran dengan tetib dan tenang					
Total Skor						

Skor maksimal : 32

Nilai Akhir :  $\frac{\text{Skor perolehan}}{\text{Skor maksimal}} \times 100$

### 3. Questioner

In this technique, the researcher distributed questionnaires to the students to get the supportive data about their opinions toward their interests, feelings, responses about the teaching and learning process and, media, and their abilities in writing English as well. The questionnaires were distributed after the action of the research.

**Table 3.5 Questioner Aspects and Indicators of Using Storybird Application toward English Writing**

Aspect	Indicator	Qusetion Number
English Writing	English Course	1,2
	Writing Media	3,4
Implementation Of Storybird In Writing Teaching Learning Process	Knowledge Of Storybird Application	5,6,7
	Students Respons Toward Implementation Of Storybird In Writing Teaching Learning Process	8,9,10,11,12,13
	Students' Need Toward Implementation Of Storybird In Writing Teaching Learning Process	14,15

### 4. Documentation

Besides the writing score rubric and observation checklist above, researcher also use documentation. Documentation serves as a proof in this study. The documentation of this study includes students' portfolios, students' attendance list and photo or video of class activity.

## **I. DATA AND SOURCE OF DATA**

The data of this study is the students' pre-test and post-test score from both group experimental group and control group. The source of data for this study is taken from the Tenth grade students of SMA Negeri 1 Gedangan, Sidoarjo. There are two types of data that will be used to answer the research question of this study. Those are primary and secondary data.

### **1. Primary Data**

The primary data of this study is taken from the score of both experiment and control group of Tenth grade student at SMA Negeri 1 Gedangan, Sidoarjo.

### **2. Secondary Data**

The secondary data will be taken from another several supporting data sources such as students' attendance list from both control group and experimental group in SMA Negeri 1 Gedangan, Sidoarjo and researcher's observation and documentation during the treatment process. Those primary and secondary data are from teacher, students and the researcher at SMA Negeri 1 Gedangan, Sidoarjo.

## **J. DATA ANALYSIS TECHNIQUE**

In this study, data will be obtained from research subject score to show whether teaching reading comprehension using *Storybird* application as web tool in writing classroom activity is effective than teaching writing skill using conventional strategy.

To analyze the data, the researcher compares the score of both experimental and control group. It is useful to prove statistically whether there is any significant difference between

the students' scores of the control group and the scores of the experimental group. In counting pre-test and post-test score result, the researcher will arrange the score into a table for both control group and experimental group firstly and count each average score or *mean* from each classes.<sup>46</sup> The population and the data were tested normality and homogeneity using SPSS 14. After the normality and homogeneity had been known, it would be test the influence and the difference of given treatment to control group and experimental group. If the data was normality distributed, the next step to test the treatment influence would use *parametric statistic* with *Paired Sample Test*. If the data was not normality distributed, the next step to test the difference would use *non-parametric statistic* with *Kruskal Wallis Test*. After testing the treatment influence, the data would be tested the significant differences. If the data was normality distributed, the test of significant difference would use *parametric statistic* with *Independent Sample T Test*. Whether, if the data was not normality distributed, the next step to test the difference would use *non-parametric statistic* with *Mann Withney U Test*. After calculated and found the result of those test, researcher will compare between the result and the research hypothesis. The last step, the researcher will drawing the conclusion of the data result.

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<sup>46</sup> Subana, Rahadi, M, & Sudrajat. *Statistik Pendidikan (Statistic in Education)*. Bandung: Pustaka Setia. 2000, p. 131