

CHAPTER III

RESEARCH METHOD

This chapter discusses the research design, research setting of the study which includes population and sample, data collection technique, instruments, and data analysis procedures.

A. Research Design

In this study, the researcher uses a quantitative research. This kind of research is identically dealing with numerical data. Basically, this research is verificative research which used to check the true of some hypothesis. The hypothesis means an idea or explanation for something that is based on known facts and is used as a basis for reasoning or further investigation.⁴⁸ The way to set up the hypothesis test is to formulate two hypothesis statements: one that describes the researcher's prediction called as alternative hypothesis (Ha) and one that describes all the other possible outcomes with respect to the hypothesized relationship which usually called as null hypothesis (Ho).⁴⁹ Therefore, it is suitable as the goals of the researcher's study which tried to find out the influence of students' different sex and school background in comprehending of narrative text.

⁴⁸ A S. Hornby. 1995. *Oxford Advanced Learner's Dictionary, 5th Ed.* New York: Oxford university press. p. 586.

⁴⁹ Trochim, William M.K.. *The Research Methods Knowledge Base (2nd edition)*. Ithaca,N.Y. :Cornell Custom publishing. 1999. p. 9.

Since this study tries to compare students' ability in comprehending narrative text based on their sex and school background, the researcher uses comparative analysis method in analyzing the data obtained. In comparative research, the researcher is doing an investigation in order to know are there any differences between two or more groups on phenomenon have being study.⁵⁰ The independent variable in this research is the students' different sex (male and female) and school background (private and public), and the dependent variable is the students' comprehension skill in understanding narrative text.

B. Setting of the Study

Sampling is a process of selecting units (such as people and organizations) from a population of interest.⁵¹ The participants of this research are the 2nd grade of Junior High School at Darul Muta'allimin Taman, Sidoarjo as the population. The group you wish to generalize to is called the population in your study.⁵² There are 142 students from 3 classes. They are chosen because the students are all in the same grade, have been studying English for the same period, and are taught by the same teacher which means getting the material through the same method. Furthermore, they are in

⁵⁰ Syamsuddin AR. *Metode Penelitian Pendidikan Bahasa*. Bandung:PT Rosda Karya. p. 25.

⁵¹ Trochim, William M.K.. *The Research Methods Knowledge Base (2nd edition)*. Ithaca,N.Y. :Cornell Custom publishing. 1999. p. 41.

⁵² Ibid. p. 44.

process studying narrative text which means they still have fresh memory about reading narrative text. Therefore, it is the most appropriate grade to conduct the research.

After determining the population, the researcher chooses a sample or apart of the population. The sample is the group of people you select to be in your study.⁵³ Good sample is one that is representative of the population in order that the results of the study can be generalized to all members of the population. In this research, the researcher using systematic random sampling where the researcher select sample randomly. In purpose, every individual has an equal opportunity to be chosen. Arikunto says that if the number of subject is more than 100 people, we can take 10%, 20%, 25% or more of them. Meanwhile, if the number of the subject is less than 100 people, we can take all population.⁵⁴

In result, the sample of this research is 40 students in the 2nd grade of SMP Darul Muta'allimin Taman, Sidoarjo. In details, the sample of this research are 10 male students with private school background, 10 female students with private school background, 10 male students with public school background, and 10 female students with public school background.

⁵³ Ibid. Pg: 45.

⁵⁴ Arikunto, Suharsimi.2006. *Prosedur penelitian Suatu Pendekatan Praktek*. Jakarta : PT Rineka Cipta. p. 134.

C. Data Collection Technique

The data which researcher all needs to verify the hypothesis is through a test. A test is a way of discovering, by questions or practical activities, what someone knows, or what someone or something can do.⁵⁵ Through this way the researcher examines the skill, knowledge, intelligence, ability of the students. Actually, there are several kinds of test and other measuring instruments, such as personality test, aptitude test, intelligence test, measure of interest, and achievement test.⁵⁶ Specifically, the purpose of the researcher gives tests which consist of questions that must be answered by the students is to measure students' comprehension skill in understanding narrative text, for male-female students either from private or public school background

In this study, the researcher gives 2 tests of narrative texts which are about fairy tale and fable. The first test (test 1) which is about fairy tale is adapted from textbook. The title is contextual teaching and learning bahasa inggris: sekolah menengah pertama kelas VIII 4th ed which is written by Utami Widiati, et al. The second test (test 2) which is about fable is also adapted from textbook. The title is scaffolding: English for junior high school students grade VIII which is written by Joko Priyana, et al. The test is

⁵⁵ A S. Hornby. 1995. *Oxford Advanced Learner's Dictionary, 5th Ed.* New York: Oxford university press. p.1233

⁵⁶ Arikunto, Suharsimi.2006. *Prosedur penelitian Suatu Pendekatan Praktek.* Jakarta : PT Rineka Cipta. p 150-151.

distributed to 40 students in second grade at Darul Muta'allimin Taman, Sidoarjo.

D. Instrument of the Study

In order to collect the data, the researcher needs an instrument. Since the result of the study is influenced by instrument, an appropriate instrument should be carefully designed and constructed. A test is a very important instrument by which the researcher gets the data of her investigation.⁵⁷

The researcher gives 2 test of narrative texts which are about fairy tale and fable. In the first test (test 1) which is about fairy tale, it consists of 25 multiple choices questions and 25 True/False questions. For the first test, the researcher gives 0 score for the wrong answer and 1 score for the correct answer. Then, the second test (test 2) which is about fable, it consists of 10 essay questions. For the second test, the researcher gives score on each item based on the rubric. The questions are given as a test for the students as the measurement of their comprehension skill in understanding narrative text. The students are asked to answer the questions based on the narrative text that they have just read.

⁵⁷ Ibid. p.150.

E. Data Analysis Technique

Analyzing data which are gathered means a method to organize the data until readable and interpretable. After the data are collected, the researcher does some steps to analyze the data. The researcher analyzes the data start from tabulation. Tabulation is a process of making main table that contains composition of research data based on systematically classification so that it is easy to analyze in advance.⁵⁸ The steps for data analysis are as follow:

- The tabulation of data
- Summarizing of data
- Analyzing data in order to test hypothesis
- Analyzing data to draw conclusion.

In details, the researcher does some steps to get the results of the test. The first, the researcher analyses the result of the test. The researcher gives score based on the rubric. Second, the researcher puts the score in tabulation of data in order that the analysis can easily be done. Then, the researcher analyzes the data using two-way ANOVA to verify the hypothesis. Here are the ways in analyzing using two-way ANOVA:

The main effect of A (the students' different sex), main effect of B (the students' different school background), interaction of A and B. Thus the researcher partitions variance into parts caused by IV_A , IV_B , $Int_{A \times B}$, and

⁵⁸ Mardalis.1999. *Metode Penelitian: Suatu Pendekatan Proposal*. Jakarta: PT Gramedia Pustaka Utama. p. 79.

Error. Then, the researcher compares the variance associated with each thing of interest to error variance to see if each effect is meaningful. ANOVA defines Main effects as overall differences among levels of IV, but is not concerned that the differences are consistent across the levels of the other IV.

Table 3.1
The Score for Two-Way ANOVA

Students' different Sex (A)	Students' different School Background (B)				Total	
	B ₁ Private School		B ₂ Public School			
	(X ₁)	(X ₁ ²)	(X ₂)	(X ₂ ²)	(X)	(X ²)
A ₁ Female	X _{1,1,1}	X _{1,1,1} ²	X _{1,2,1}	X _{1,2,1} ²		
	X _{2,1,1}	X _{2,1,1} ²	X _{2,2,1}	X _{2,2,1} ²		
	X _{3,1,1}	X _{3,1,1} ²	X _{3,2,1}	X _{3,2,1} ²		
	so on to	so on to	so on to	so on to		
	X _{n,1,1}	X _{n,1,1} ²	X _{n,2,1}	X _{n,2,1} ²		
Total Part 1	∑X _{tp1,1}		∑X _{tp2,1}		∑XA ₁	
	$\bar{X}_{tp1.1}$		$\bar{X}_{tp2.1}$		\bar{X}_{A2}	
A ₂ Male	X _{1,1,2}	X _{1,1,2} ²	X _{1,2,2}	X _{1,2,2} ²		
	X _{2,1,2}	X _{2,1,2} ²	X _{2,2,2}	X _{2,2,2} ²		
	X _{3,1,2}	X _{3,1,2} ²	X _{3,2,2}	X _{3,2,2} ²		
	so on to	so on to	so on to	so on to		
	X _{n,1,2}	X _{n,1,2} ²	X _{n,2,2}	X _{n,2,2} ²		
Total Part 2	∑X _{tp1,2}		∑X _{tp2,2}		∑XA ₂	
	$\bar{X}_{tp1.2}$		$\bar{X}_{tp2.2}$		\bar{X}_{A2}	

Total	$\sum XB_1$	.	$\sum XB_2$		$\sum X_{tot}$	$\sum X_{tot}^2$
\bar{X}^B	\bar{X}^{B1}	.	\bar{X}^{B2}	.	.	.

Where:

A: Students' different Sex

B: Students' different School Background

IV: The independent variable.

X: The ability of the students in comprehending narrative text.

\bar{X} : Mean.

N: Total of respondent.

n : Total of respondent in each variable.

To get the variance, the researcher goes through several steps. Variance is SS/df, and SS is the sum of the squared deviations. These things are based on the math way of looking at MEs and interactions.

1. Partitioning Variance

a. Sums of Squares

$$SS_T = \sum X_{tot}^2 - \frac{(\sum X_{tot})^2}{N}$$

$$SS_A = \sum \frac{(\sum X_A)^2}{n_A} - \frac{(\sum X_{tot})^2}{N}$$

$$SS_B = \sum \frac{(\sum X_B)^2}{n_B} - \frac{(\sum X_{tot})^2}{N}$$

$$SS_{TP} = \frac{(\sum X_{tp1,1})^2}{ntp1,1} + \frac{(\sum X_{tp1,2})^2}{ntp1,2} + \dots + \frac{(\sum X_{tp1,n})^2}{ntp1,n} + \frac{(\sum X_{tp2,1})^2}{ntp2,1} + \frac{(\sum X_{tp2,2})^2}{ntp2,2} + \dots + \frac{(\sum X_{tp2,n})^2}{ntp2,n} - \frac{(\sum X_{tot})^2}{N}$$

$$SS_{AxB} = SS_{TP} - (SS_A + SS_B)$$

$$SS_E = SS_t - (SS_A + SS_B + SS_{AxB})$$

b. degrees of freedom

$$df_T = N_T - 1$$

$$df_A = A - 1$$

$$df_B = B - 1$$

$$df_{A \times B} = (A - 1)(B - 1)$$

$$df_E = N_T - A \times B$$

c. Mean Squares (Variances)

$$MS_A = SS_A / df_A$$

$$MS_B = SS_B / df_B$$

$$MS_{A \times B} = SS_{A \times B} / df_{A \times B}$$

$$MS_E = SS_E / df_E$$

2. Comparing Variances

The researcher puts the result of the calculation on the table in order to easy in analyzing. It presents the comparison of variances in which the researcher sees if the effects of interest are big compared to variability within groups. The F statistic is the comparison of the MS for each effect to the MS_E . After knowing F statistic then the researcher checks the hypothesis result. The criterion hypothesis is significant if F result is same or more than F table.

1) H_0 : There are no differences in students' comprehension skill in understanding narrative text based on their sex.

H_a : There are differences in students' comprehension skill in understanding narrative text based on their sex.

2) H_0 : There are no differences in students' comprehension skill in understanding narrative text based on their school background

H_a : There are differences in students' comprehension skill in understanding narrative text based on their school background.

3) H_0 : there are no differences attributable to the particular combinations of sex and school background in students' comprehension skill in understanding narrative text.

H_a : there are differences attributable to the particular combinations of sex and school background in students' comprehension skill in understanding narrative text.

Table 3.2
The result of Two-Way ANOVA

<u>Source</u>	<u>Df</u>	<u>SS</u>	<u>MS</u>	<u>F_s</u>	<u>F_t</u>
Factors	.	.	.	.	.
A	df_A	SS_A	MS_A	$F_A = MS_A / MS_E$	.
B	df_B	SS_B	MS_B	$F_B = MS_B / MS_E$	.
Interaction	.	.	.	.	.
A x B	df_{AxB}	SS_{AxB}	MS_{AxB}	$F_{AxB} = MS_{AxB} / MS_E$	.
Error	df_E	SS_E	MS_E	.	.
Total	df_T	SS_T	.	.	.