CHAPTER III

RESEARCH METHODOLOGY

This chapter presents a discussion on the methodology employed in conducting the research. The description and account below involve: (1) Research Design, (2) Research Population and Sample, (3) Research Instruments, (4) Research Procedures, and (5) Data Analysis.

3. 1. Research Design

3. 1. 1. Design

In conducting a study, research method is very essential as a guideline to get the answer to the problem proposed in a study. This study was conducted based on true experimental design, since it tried to investigate the effectiveness of using animated films in teaching writing narrative text. In this study the subject of the study were divided into two groups; they were experimental group and control group. The experimental group got a treatment, while the control one did not.

According to Hatch and Farhady (1982: 22), the quasi-experimental study is categorized into two kinds namely post-test only control group design and pre-test-post-test control group design. This study concerns on pre-test-post-test control group design. The formula of this design is as follows:

Sample	Pre-test	Treatment	Post-test
Experimental Group (EG)	T1	X	T2
Control Group (CG)	T1	-	T2

3. 1. 2. Research Variable

According to Brown (1990), a variable is defined as an observed or quantified representation of a construct that is the actual underlying characteristic or ability of human being. In addition, Casey and Sowell (1982) identify variable as something that takes on different values quantitatively or qualitatively in a given situation.

There were two types of variables that were used in this research. They were independent variable and dependent variable. In this research, the independent variable was animated film, while the dependent variable was teaching writing.

3. 2. Research Population and Sample

3. 2. 1. Population

Population is a whole subject of the research (Arikunto, 1998: 115). Furthermore, Casey and Sowell (1989) define population as basically a group that has one or more characteristics in common, which can vary widely in size.

The population of this study was the second grade students of SMAN 1 Baleendah Kabupaten Bandung which spread into nine classes. The classes are divided into three majors; science class which consists of four classes, social class which is divided into four classes, and language class which only consists of one class.

SMAN 1 Baleendah was chosen as the place of conducting research because of the writer's access to the school. The location of school is near the writer's house.

3. 2. 2. Sample

The sampling technique used in determining the research sample was Cluster Random Sampling. This technique was used by raffling the groups in population then took two groups as the sample of the study. In this study, the writer took two classes from social class as the sample—XI IPS 2 as the control group and XI IPS 4 as the experimental group. They were chosen due to their English teacher's recommendation that all members of the selected groups have similar characteristics. Each class consists of 33 students.

3. 3. Research Instrument

According to Arikunto (1996: 136-136), instrument is a media used by the researcher in collecting the data. Instrument can be questionnaire, interview, observation, test and documentation.

The instrument of this study was intended to capture and elicit the whole relevant data. The instruments in this study were the writing composition test and questionnaire. The writing performance test conducted for the aim of this study was in the form of writing test to make a narrative text. This test was given to both experimental group and control group.

Another instrument was questionnaire that was used to investigate the students' perception towards the use of animated film in writing narrative text. The questionnaire was only administered for the experimental group in the end of program.

3. 4. Research Procedures

3. 4. 1. Instrument Try Out

Try out test was proposed to measure the validity and reliability of the instrument. It was administered before conducting pre-test. The try out test was administered on January 15, 2008 in class XI IPS 1 which consists of 40 students. The kind of try out test was making a narrative text based on well-known legends.

3. 4. 2. Pre-test

Pre-test or first writing performance test was administered to both groups at the beginning of the research. This test was intended to gain the data of the students' basic writing skill and to ensure that the students from both group had the same background and the same English proficiency before they received the treatment. It was held on January 18, 2008.

3. 4. 3. Treatment

In conducting this study, the writer used an animated film as the media in teaching writing narrative text. The treatment was carried out in six meetings to the experimental group from January 23 to February 8, 2008, while the control group was treated using conventional method. Each meeting consisted of two hours of instruction (one hour of instruction was forty five minutes). The research schedule can be seen in the table 3.1 below:

Table 3.1 Research Schedule

No.	Date	Experimental Group	Control Group
1.	January 18, 2008	Pre-test	Pre-test

2.	January 23, 2008	Overview on Narrative text	Overview on Narrative text
3.	January 30, 2008	Reading: Prambanan Temple Legend	Reading: Prambanan Temple Legend
4.	February 1, 2008	Group Discussion	Group Discussion
5.	February 6, 2008	Watching Animated Film	Brainstorming
6.	February 8, 2008	Film Discussion: Pre-writing	Discussion: Pre-writing
7.	February 13, 2008	Post-test	Post-test
8.	February 15, 2008	Questionnaire	-

The process of treatment administered to experimental group was conducted by asking students to watch the animated film and make a narrative text based on the film given. They also can use their own imagination to manipulate the origin story of film given. The animated film may facilitate students in finding the topic that they will write.

3. 4. 4. Post-test

At the end of the research, the writer administered the post-test. This test was distributed to both groups to find out the result of the whole treatment. The procedure of doing post-test was similar to pre-test. The purpose of this test is to find out whether or not there are any differences between students' score of experimental

group and control group after the treatment. It was administered on February 13, 2008.

3. 4. 5. Questionnaire

Questionnaire was conducted in order to investigate the students' response towards the using of animated film in teaching writing narrative text. This questionnaire was only administered in the experimental group at the last program. It was held on February 15, 2008.

3. 5. Data Analysis

After collecting data, the researcher needs to analyze the data gained. Processing the data analysis was conducted on the pre-test and post-test scores. Data from final test scores was used to find out the students improvement in learning writing narrative by using animated films and to investigate the influence of using animated films in teaching writing narrative text after the treatment. The influence was shown on the students' writing ability of narrative text in experimental group after the treatment given..

3. 5. 1. Scoring

The scoring of the students' writing performance test was based on the 'ESL Composition Profile' cited in Jacob et al. (1981 in Hughes, 1998: 104). According to this scoring system, the appraisal towards students' composition work was based on five aspects of writing: content, organization, vocabulary, language use, and mechanic. The score for each aspect ranges differently each other and it is classified into some criteria, such as (1) content—the score is ranging from 30 (the highest or excellent) to 13 (the lowest or very poor), (2) organization—the score is

ranging from 20 (the excellent) to 7 (very poor), (3) vocabulary—the score is ranging from 20 (excellent) to 7 (very poor), (4) language use—the score is ranging from 25 (excellent) to 5 (very poor), and (5) mechanic—the score ranging from 5 (excellent) to 2 (very poor). The total score of this profile ranges from 34 t0 46 as the lowest and 90 to 100 as the highest. For more detail, Table 3.2. provides the scoring standard of ESL Composition Profile.

Table 3.2 the Scoring Standard of ESL Composition Profile

Aspect of Writing	Range	Score	Criterion
Content	30-27	Excellent to very good	Knowledgeable · substantive · thorough development of thesis · relevant to assigned topic
	26-22	Good to Average	Some knowledge of subject · adequate range · limited development of thesis · mostly relevant to topic, but lacks detail
	21-17	Fair to poor	Limited knowledge of subject · little substance · inadequate development of topic
	16-13	Very poor	Does not show knowledge of subject · non-substantive · not pertinent · or not enough to evaluate
Organization	20-18	Excellent to very good	Fluent expression · ideas clearly stated/supported · succinct · well-organized · logical sequencing cohesive
	17-14	Good to Average	Somewhat choppy · loosely organized but main ideas stand out · limited support · logical but incomplete sequencing
	13-10	Fair to poor	Non-fluent · ideas confused or disconnected · lacks logical sequencing and development
	9-7	Very poor	Does not communicate · no

			organization · or not enough to evaluate
Vocabulary	20-18	Excellent to very good	Sophisticated range · effective word/idiom choice and usage · word form mastery · appropriate register
	17-14	Good to Average	Adequate range · occasional errors of word/idiom form, choice, usage but *meaning not obscured*
	13-10	Fair to poor	Limited range · frequent errors of word/idiom form, choice, usage · *meaning confused or obscured*
	9-7	Very poor	Essentially translation · little knowledge of English vocabulary idioms, word form · or not enough to evaluate
Language Use	25-22	Excellent to very good	Effective complex constructions · few errors of agreement, tense, number, word order/function, articles, pronouns, prepositions
	21-18	Good to Average	Effective but simple constructions minor problem in complex constructions · several errors of agreement, tense, number, word order/function, articles, pronouns, prepositions, but meaning seldom obscured
	17-11	Fair to poor	Major problems in simple/complex constructions · frequent errors of negation, agreement, tense, number, word order/function, articles, pronouns, prepositions, and/or fragments, run-ons, deletions · *meaning confused or obscured*
	10-5	Very poor	Virtually no mastery of sentence construction rules · dominated by errors · does not communicate · or not enough to evaluate
Mechanic	5	Excellent to very good	Demonstrate mastery of conventions · few errors of spelling, punctuation, capitalization, paragraphing

	4	Good to Average	Occasional errors of spelling, punctuation, capitalization, paragraphing but meaning not obscured
	3	Fair to poor	Frequent errors of spelling, punctuation, capitalization, paragraphing · poor handwriting · *meaning confused or obscured*
	2	Very poor	No mastery of convention · dominated by errors of spelling, punctuation, capitalization, paragraphing · handwriting illegible · or not enough to evaluate

In relation to writing scoring system, this research used a direct measurement to assess the students' writing products. According to Syafi'i (2001:41), a direct measurement is a scoring system that derives score from reader's judgments based on predetermined criteria. Furthermore, Cooper (1977) in Syafi'i (ibid) classifies the direct measurement into two kinds of procedure. The first way is holistic scoring which is a procedure in evaluating a piece of writing as whole or as a complete idea. Secondly, frequency–count making is based on enumerating certain elements of composition.

In conducting this research, the writer applied the third type of holistic scoring namely the dichotomous scale. This type of scoring is a procedure in assessing a piece of writing based on whether or not the writing being assessed has the features identified in the scale/the profile (Syafi'i, ibid: 42).

3. 5. 2. Data Analysis on Try Out

In collecting data, the researcher used a test as the research instrument. Therefore, it is required to analyze the reliability and validity of the test. As Heaton

(1975) proposed that an appropriate test must fulfill three requirements which are: (1) valid, (2) reliable, and (3) practical. Considering those requirements, before administering pre-test, the researcher first tried out the instrument to another class in the same grade. The gained score of the students' writing performance then was analyzed.

a.   Validity of the Test

According to Mc Millan and Schumacher (1989), validity is a judgment of the appropriateness of a measure for specific inferences or decisions, which results from the scores generated. Furthermore, Heaton (1975) states that validity of the test is "the extent to which it measures what it is supposed to measure." The instrument of this study is a writing performance test, so it considers that this test is valid if this test measures students' writing ability.

In determining the validity of test, this study used discrimination power. According to Masrun (1979 in Sugiyono, 1999: 272—Writer's translation), this analysis is useful in determining content validity. The procedures of determining the discrimination power were carried out:

1. divide the gained score into two groups, high score and low score group. As many as 27% were taken from the sample,

2. prepare table in order to facilitate calculation,

Highest score	Lowest score
…	…
…	…
…	…

=	=
S_1 =	S_1 =
$S_1{}^2$ =	$S_1{}^2$ =

3. calculate the discrimination power with t-test formula. Discrimination power can be examined significantly by using the t-test formula (Sugiyono, 1999) as follows:

$$t_{observe} = \frac{\overline{X}_1 + \overline{X}_2}{S_{total} \cdot \sqrt{\frac{1}{n_1} + \frac{1}{n_2}}}$$

Where:

$$S_{total} = \sqrt{\frac{(n_1 - 1) \cdot S_1^2 + (n_2 - 1) \cdot S_2^2}{(n_1 + n_2) - 2}}$$

Note:

$\overline{X}_1$ = mean of the highest score group

$\overline{X}_2$ = mean of the lowest score group

S_1 = Variance of the highest score group

S_2 = Variance of the lowest score group

n = Number of sample

(Sugiyono, 1999)

4. determine the degree of freedom (*df*) by using the formula:

$$df = n_1 + n_2 - 2$$

the level of significance (α) is determined at 5%.

5. compare the t_{table} and the $t_{observe}$ in order to find out whether the discrimination is significant or not. If the $t_{table} \geq t_{observe}$ means that the discrimination is significant so that the instrument is considered valid

b. Reliability of the Test

Reliability is the level of internal consistency or stability of the measuring tool overtime (Borg and Gall, 1979). Furthermore, Tuckman (1975) cited in Nurgiyantoro (2001: 118) states that reliability of test refers to whether or not the test itself consistently measures something that will be measured from time to time.

In this study, the best method to determine the reliability of the essay test is by using the Cronbach's Alpha formula in SPSS 15 for Windows. The steps of analyzing were as follows:

1. Analyzing the data scores in Reliability Cronbach's Alpha formula.

2. Consulting the obtained reliability value with the criteria of reliability.

Table 3.3 Criteria of Discrimination Index

Interval	Category
0,00 - 0,199	Very low
0,20 - 0,399	Low
0,40 - 0,599	Moderate
0,60 - 0,799	High
0,80 - 1,000	Very high

c. Practicality

The last criterion of instrument analysis is practicality. Practicality of test can be considered in economical, administration, scoring, and interpretation aspects

(Nurgiyantoro, 2001: 150). Economical means that the test should not be expensive. Administration aspect refers to the facilities used in the test. A test would be more practical if it does not require many facilities and it is easy to be administered. Next aspect is scoring. It would be better if the teacher provide the test with clear instruction and guideline. This guideline will help teacher in scoring students' works. Finally, the test must be easy to be interpreted so that the students will be able to perform their task well.

3. 5. 3. Data Analysis on Pre-test

Pre-test was administered in order to find out the students' initial ability and their initial equivalence. In analyzing the data gain, the t-test formula was used to determine whether the means of scores between two groups have statistically significant differences (Kranzler and Moursund, 1999: 89).

According to Hatch and Farhady, 1982, there are certain assumptions that should be met in order to use the t-test formula, as follows:

1. The subject is assigned to one group in the experimental

2. The scores in each group are normally distributed, and

3. The variances of the scores of the two groups are equal.

Due to those requirements, the writer administered the normality and variance homogeneity tests before the data was calculated by using t-test formula.

3. 5. 3. 1.   Normality Distribution Test

Kolmogorov-Smirnov formula in SPSS 15.0 for Windows was used to analyze the normality of distributions. The steps are as follows:

1. Stating the hypothesis and setting the alpha level at 0,05 (two-tailed test),

$H_0 =$ the scores of the experimental group and the control group are normally distributed.

$H_1 =$ the scores of the experimental group and the control group are not normally distributed.

2. Analyzing the homogeneity of variance by using Kolmogorov-Smirnov formula in SPSS 15.0 for Windows,

3. Comparing the significant value with the level of significance for testing the hypothesis. If the significant value is more than the level of significance (0,05) the null hypothesis is accepted; the scores of control group and experimental group are normally distributed.

3. 5. 3. 2.　　　Homogeneity of Variance Test

To test whether or not the score of research was homogeneous variance, the research of Homogeneity of variance test was conducted. The testing carried out was ANOVA Levene test formula in SPSS 15.0 for Windows. The procedures of the test were as follows:

1. Stating the hypothesis and setting the alpha level at 0,05 (two-tailed test),

$H_0 =$ the variance of the experimental group and the control group are homogeneous.

$H_1 =$ the variance of the experimental group and the control group are not homogeneous.

2. Analyzing the homogeneity of variance by using ANOVA Levene test formula in SPSS 15.0 for Windows,

3. Comparing the significant value with the level of significance for testing the hypothesis. If the significant value is more than the level of significance (0,05) the null hypothesis is accepted; the variance of control group and experimental group are homogenous.

3. 5. 3. 3.   T-test Computation

In this research, Independent Sample test in SPSS 15.0 for Windows was used to investigate the significant differences between the pre-test mean for the experimental group and the control group before the treatment given. The procedures of the test were as follows:

1. Stating the hypothesis and setting the alpha level at 0,05 (two-tailed test),

    H_0 = there is no significant difference between the pre-test means for the experimental group and for the control group.

    H_1 = there is significant difference between the pre-test mean for experimental group and for the control group.

2. Finding the t- value with the independent sample test formula,

3. Comparing the significant value with the level of significance for testing the hypothesis. If the significant value is less than the level of significance (0,05) the null hypothesis is accepted; the two group are equivalent.

3. 5. 4. Data Analysis on Post-test

After analyzing the pre-test data, the similar procedures in the pre-test data analysis were conducted to calculate the post-test data. Independent sample t-test in SPSS 15.0 for windows was used to analyze the means of post-test scores for the experimental group and for the control group after the treatment given.

3. 5. 5. Data Analysis on the Questionnaire

In this study, the close-questionnaire and the open-questionnaire were analyzed by using the formula of percentage. The formula was as follows;

$$P = \frac{f_o}{n} \times 100\%$$

Note:

P = Percentage

f_o = Frequency of Observed

n = Number of Sample

After calculating the percentage of respondent, the results were determined in order to find out the students' response towards the using of animated film by using the percentage criterion, as follows:

Table 3.4 Percentage of Respondents (R %) Criterion

No.	Percentage (R%)	Criterion
1.	0	None
2.	1 – 25	Small number of
3.	26 – 49	Nearly half of
4.	50	Half of
5.	51 – 75	More than half
6.	76 – 99	Almost all of
7.	100	All of

(Kuntjaraningrat in Yulianti, 2003)