RESEARCH METHODOLOGY

This chapter includes the research design, data collection, and procedures of data analysis.

3.1   Research Design

This study used quasi-experimental design (non-equivalent control group design). This design was selected because it is commonly used in education and because it is often impossible to randomize the subject. This design was also chosen because the population of this study did not consist of individuals but group of individuals or clusters. In schematics, the design is as follow:

Experimental	O_1	X	O_2
Control	O_3		O_4

The observation or measurement process of students' writing scores is represented by O. O_1 and O_3 are students' writing scores in the pretest. O_2 and O_4 are students' writing scores in the post-test. X refers to the exposure to an experiment or the treatment. Parallel rows separated by dashed lines represent groups not equated by random assignment (Cohen, et. al., 2005).

This study used two classes. Each class served as the experimental group and control group. The experimental group received treatment using comics, while the control group would receive traditional treatment. Both groups received pretest and post-test to measure their writing scores.

In this study, the independent variable is the use of comics in teaching narrative. This is the variable which is selected, manipulated, and measured. The dependent variable is students' score in narrative writing. This is the variable which is observed and measured to determine the effect of the independent variable (Hatch and Farhady, 1982: 15).

3.2   Data Collection

3.2.1   Population and Sample

In the syllabus of English for high school, narrative text is learned in the second semester of the second year. Therefore, the second grade students of a private school in Bandung were selected as the population of this study. The total population of second grade students in the school was 218 students which were divided into six classes.

Class XI IPA 1 and XI IPA 3 were selected as the sample. Class XI IPA 1, which consists of 35 students was taken as the experimental group and class XI IPA 3, which consists of 36 students was taken as the control group.

3.2.2 Instruments

In this study, the instruments used to collect data were tests and questionnaire.

3.2.2.1 Tests

Writing test was used to collect the data of students' writing scores. The writing test was chosen because it is assumed to be the best way to test writing ability (Hughes, 2003). In the tests, students were required to write a narrative text based on presented topic. To acquire students' writing scores, a scoring rubric was developed based on the scoring guides formulated by Jacobs, et al. (1981) cited in Hughes (2003), Cesuz, J. (2004), and Missouri Department of Elementary and Secondary Education (2006). The adapted scoring rubric consisted of four aspects which are organization, elements of narration, language use, and mechanics. The scoring rubric is presented in Table 3.1.

The tests consist of pretest and post-test. Pretest was conducted to find the initial scores of experimental group and control group. Before the pretest, a pilot test was carried out to examine whether the instructions in the writing test can be understood or not. The pilot test was conducted in another class in the population. The post-test was conducted to find students' writing score after they are given the treatment.

Table 3.1
Narrative Writing Scoring Rubric

Aspect	5	4	3	2
A. Organization	Ideas are well connected. Strong beginning, middle, and end. Ideas are sequenced and logical.	Most of the ideas are connected. Good beginning, middle, and end. Ideas are sequenced and logical.	Some of the ideas are connected. Has the attempt to include a beginning, middle, and end. Ideas are sequenced and logical.	Few ideas connected. Lacks a clear beginning, middle, and end. Little sequence logic
B. Elements of Narration	The narrative is interesting and has a clear point. It is told in chronological order; transitions make the order clear. The narrative contains numerous and specific details about people, places, and events. Consistent point of view.	The narrative has a clear point. It is told in chronological order; transitions make the order clear, although they may be repetitive. The narrative contains some specific details about people, places, and events. Consistent point of view.	The narrative is told in chronological order. Transitions are seldom used and may be repetitive. Very little details. The point of view may shift.	The order of events may be confusing or the narrative may lack essential details. The point of view keeps shifting.
C. Language use	Effective complex construction, tense, number, word order/function, articles, pronouns, prepositions	Effective but simple constructions, tense, number, word order/function, articles, pronouns, prepositions but meaning seldom obscured	Major problems in simple/complex constructions, tense number, word order/function, articles, pronouns, prepositions, and/or fragments, run-ons, deletions, meaning confused or obscured	No mastery of sentence construction rules, dominated by errors, does not communicate
D. Mechanics	No errors in punctuation, capitalization, spelling, and/or paragraphing	Occasional errors in punctuation, capitalization, spelling, and/or paragraphing that are not distracting to the reader.	Frequent errors in punctuation, capitalization, spelling, and/or paragraphing that may be distracting to the reader.	Dominated by errors punctuation, capitalization, spelling, and/or paragraphing that may be distracting to the reader.
Total Score = (A+B+C+D) x 5				

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3.2.2.2 Questionnaire

To find out the advantages and the disadvantages of using comics in teaching about narrative writing from the students' point of view, questionnaire was used. The questionnaire consists of several questions related to students' view about learning writing narrative text, the advantages and disadvantages of using comics in learning writing narrative text, and students' impression about the use of comics.

It was administered to the experimental group after the post-test. The questions were about students' response to the use of comics as media in teaching writing.

3.3   Data Analysis

The data collected from the pretest and post-test were writing scores of the students' narrative writing document, and

3.3.1   Pilot-test Data Analysis

The pilot test was to analyze whether students can understand the instructions of the writing test or not. After the test, the students were asked about the writing test. Then if they have difficulties in understanding the writing test instructions, the writing test would be revised.

3.3.2 Pretest and Post-test Data Analysis

The pretest and post-test were statistically analyzed by using the Mann-Whitney test and the Wilcoxon signed-rank test. Before these tests, tests of normality of distribution and variance homogeneity were conducted. The Mann-Whitney test and the Wilcoxon signed-rank test tests were used because it was discovered that the students' writing scores were not normally distributed.

3.3.2.1 Normality of Distribution Test

Kolmogorov-Smirnov test in SPSS 17.0 was used to analyze the normality of distribution. The first step of analyzing the normality of distribution was stating the hypothesis and alpha level at 0.05 (two tailed). Second step was analyzing the normality of distribution using Kolmogorov-Smirnov test in SPSS 17.0. Third step was comparing the *Asymp. sig.* (probability) with the level of significance for testing the hypothesis. If the *Asymp. sig.* is more than the level of significance, then the null hypothesis (H_0) of this test is not rejected, which means that the distribution is normal.

3.3.2.2 Variance Homogeneity Test

After analyzing the normality of distribution test, the next step was analyzing the homogeneity of variances of both groups. The first step of analyzing the homogeneity was stating the hypothesis and setting the alpha

level at 0.05 (two tailed). Second step was analyzing the homogeneity of variance using Levene's test for equality of variance in SPSS 17.0. Third step was comparing the *Asymp. sig.* (probability) with the level of significance for testing the hypothesis. If the *Asymp. sig.* is more than the level of significance, then the null hypothesis (H_0) of this test is not rejected. This means that the scores are homogeneous.

3.3.2.3. Mann-Whitney Test

After discovering that the distributions of scores are not normal and the variances are homogeneous, the Mann-Whitney test was used. The tests were analyzed by using SPSS 17.0 program.

The first step of the test was stating the null hypothesis (H_0) and alternative hypothesis (H_a), and setting the alpha level at 0.05. Second step was analyzing the scores using the Mann-Whitney test in SPSS 17.0. Third step was comparing the *Asymp. sig.* (probability) with the level of significance for testing the hypothesis. If the *Asymp. sig.* is larger than the level of significance, then the null hypothesis (H_0) of this test is accepted, which means that the scores are not significantly different. However, if the *Asymp. sig.* is larger than the level of significance, then the null hypothesis (H_0) of this test is rejected, meaning that the scores are significantly different.

3.3.3 Questionnaire Data Analysis

The formula of percentage was used to analyze the questionnaire. The data were interpreted based on the frequency of the students' answer.

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

The percentage of the response is represented by P, whereas F represents the frequency of answer and n is the number of students.