CHAPTER III

METHOD OF THE STUDY

3.1 Research Design

3.1.1 Method of the Research

In this research, the researcher uses quantitative method. Campbell & Stanley (cited in Arikunto 2010, p.123) state that there are two kind experiment based on true-experiment and quasi-experiment. Quasi experiment is experiment that is not fulfilling the term of experiment or what we can call as simple experiment. True experiment does not only focu on observing one group, but also the other group to compare with group that receives a treatment (Arikunto, 2010, p.123). In this research, this research uses true experiment to know the influence of mind mapping in writing of news item text. The following is the design (Arikunto, 2010, p.125);

Table 3.1 Research design of Arikunto

Experiment group	O_1	X	O_3
Control group	O_2	X	O_4

Where:

O_1: pre-test for experimental group

O_2: pre-test for control group

X_1: teach through mind mapping.

X_2: teach without mind mapping.

O_2: post-test for experimental group

O_4: post-test for control group

During the treatments, both group had the same materials dealing with news items. The first material was about news items; main events, elaboration, and source. The second material was about the language features of news items, such as the use of saying verb, action verb, and anything else. Some short compositions were used in order to inform readers, listeners, and viewers about events which are important.

3.2 Subject of This Research

3.2.1 Research Variables

According to Fred D. Kerlinger as cited by (Arikunto, 2010, p.162) that, "all experiments have one fundamental idea behind them; to test the effect of one or more independent variables on a dependent variable (it is possible to have more than one dependent variables in experiments)."

In experimental research, the researcher uses two variables, they are dependent variable and independent variable. The treatment is the independent variable and the outcome is the dependent variable. The independent variable is mind mapping in teaching writing. On the other hand the dependent variable was the students' writing skills of news items. The design of this research can be shown in this table.

Table 3.1 Independent and dependent variable

Group	Independent	Dependent
Experimental	X	Y
Control	-	Y

3.2.2 Population and Sample

This study was conducted in SMAN 1 Sooko Mojokerto located on Jalan R. Akhmad Basuni 361 Mojokerto 61361. The population of this research was the tenth grade students of SMAN 1 Sooko-Mojokerto in the academic year 2012/2013. According to Encyclopedia of Educational Evaluation (cited in Arikunto, 2010, p.173), population is a set (or collection) of all elements possessing one or more attributes of interest.". The researcher chose to conduct a research in this school because this school fulfillment the criteria of subject research. Some criteria of subject research are students having good basic English skill, students accepting material of news item text, and students who have not known or learned about mind mapping technique. The second reason is the efficiency of time, energy, and mind. It is because the researcher is alumnus of SMA N 1 Sooko Mojokerto so that the researcher can easily ask permission to conduct experiment in this school.

Due to limitation of time, the researcher did not take all students as the subjects of the study, but drew a sample. Sample is a representative group from

population to serve respondents (Arikunto, 2010, p.174). In this school, there were 11 classes of tenth graders in this school. Each class consists of 30 students. Therefore, there are 330 students for the total of population.

The researcher used a purposive sampling technique to determine the sample. This technique was done by taking the subject/sample which is not based on strata, random or area but the consideration of a certain purpose (Arikunto, 2010, p.183). Based on information from the teacher, the researcher found two classes with equal, similar abilities, and homogeneity. The researcher chose X.9 and X.11 because based on the result of the summative test of the first semester, these two classes gained similar average achievements. Besides, both of them have similar schedule and number of students.

After that, the researcher decided randomly which group would be the experimental group and the control group. Therefore, the researcher chose X.11 as the control group, taught the news item text without mind mapping while X.9 as he experimental group, taught the news item text with mind mapping.

3.3   Research Instruments

To get the data, the researcher needs some instrument. The data needed for this research was students' writing ability which is indicated by their scores of writing test. The instruments used in this research were pre-test, and post-test. The researcher gave pre-test to measure the basic writing skill of the students before treatments, while post-test was given after pre-test to measure the students'

writing skill after the treatments. Besides that, post-test will be held to know whether the treatment is effective or not.

The question of pre-test and post-test is designed in same model but different topic. It is because the time between pre-test and post-test is closerer. Therefore, it was designed as such so that the students do not remember the previous topic that can influence the result of posttest

3.3.1   Validity and Reliability

To know precisely what the test measured, the researcher needed to determine its validity. Validity is a measurement to determine whether the instrument is acceptable or not (Cohen, 1994, p.38). In this research, a test was designed to measure a certain skill or a content of particular course of a study. Therefore, the researcher used content validity.

Beside to know the validity, this research also need to know the reliability. Definition of reliabity is measuring a tool used in experiment that has the same result if used in other people (Eriyanto, 2011, p.282). A test is reliable if the reliable value of the test is higher than r-table.

Because this data is written form, so the researcher using professional ad judgment to know the validity and reliability of this test. Professional ad judgment is one of ways to know whether this instrument is valid or not and reliable or not for this research it was done through ad judgment from the teacher.

There are some steps of professional ad judgment in this research. First, the analysis was about the language itself and decisions on which matter needed to be tested proportionally. Second, the analysis was also based on curriculum point of view in the writing skill area of the 10th grade students of senior high school in the second semester. The researcher also asked a valuator that is Siti Baniatun S.Pd who is English teacher class 10th grade in the SMA Negeri 1 Sooko Mojokerto to assess whether the questions in the test provided is proper to use. The researcher will examine the instrument to two English teachers of three teachers in SMAN 1 Sooko Mojokerto. After knowing the time need by teachers to finish the test, the researcher can easily decide how long should be allocated many time that given to the students to do the test.

From the result, teachers can finish their writing of the news item text only in 25 minutes. Then the researcher decided to give time for students to finish their writing in 45 minutes for pretest and posttest.

3.4   Techniques for Collecting Data

To get the data, the researcher does some steps. First step is preparing. Before entering the class for giving test and treatment, the researcher ask Mrs. Aan who is the English teacher, to consult about the condition of students in this school, especially, student in 10th grades. After the researcher knows the condition of this school, the researcher chooses two classes that have almost same the ability and the schedule. Then the researcher decided two classes to be control group and experimental group.

After choosing the sample, the researcher also consults about the lesson plan and the model of test. This activity has purpose to know whether the test is valid or not Then the researcher also decides the time when the researcher can take data in this school. The researcher needs to enter to classes only two times. It is because the students already receive news item material but the teacher have not taken the writing score. So that, in this research the researcher only focuses on explaining about mind mapping that applicable in news item. Based on the syllabus there is only two weeks or four meeting allocated for explaining about to explain about news item material.

For the first time entering in this school, the researcher gives the same pre-test for each group. Both of group will give the pre-test before the treatment. Pre-test for both of groups were collect to acquire the information of the students' ability before having treatment. The control and experiment group will give a pre-test on May 1, 2013 at 06.45-8.15 am.

In first 45 minutes, it is for pre test. After that, the experiment group will give the first treatment in second 45 minutes later. In pre-test, the student must create three paragraphs that each paragraph consists of at least five sentences. Therefore, total of all the sentences they must make is fifteen sentences. They can choose one of three topics: vocal competition "x-factor Indonesia" in RCTI, final exam of SMA in Indonesia 2013, and the last is about the case of Raffi Ahmad.

All of the topics is booming in that time, so that the students have idea to write news item. Written news item is for trial to be journalist so that the students must

update with the newest event. Before they start writing, they search the information from the internet because each of them bring laptop and SMAN 1 Sooko Mojokerto completely has the facilities of Wi-Fi. While composing the news item they have opportunity to open the dictionary. This facility helps them to choose the appropriate vocabulary.

After that, the researcher gives a treatment to experimental group through mind mapping technique to writing news items. On the other hand, the researcher gives conventional way to improve writing skills of news items text in control group. Meanwhile, the control group gets writing exercise without any treatment of certain technique. The researcher is only entering class in experiment group, because the schedule of experiment and control is the same. Thus, the class of the control group will handle by their teacher. It is the reason why the researcher is makes a lesson plan only for experimental groups.

In order to know the effect of treatments, after giving treatment the researcher gives post-test to both groups. The post-test for control and experiment group is of the same type and the same time allocation with pre-test. The post-test will held in the last meeting in treatment in order to keep the student from trying or studying in their home. It is one of strategies to know that this technique is affective or not.

The result of the post-test done by both groups will show whether there is a difference between teaching writing news items to students with mind mapping technique and without mind mapping technique. The treatment and posttest held on the next day. In other words on May 2nd, 2013 at 10.50-12.20 am. For the first

45 minutes, the researcher gave the second treatment about mind mapping again. The next 45 minutes, the researcher gave a posttest.

The instruction in the posttest is similar with the pretest. However, the topic is different but similar. The topic is also familiar with them: the accident of Lion Air, the skill competition of "Indonesia Mencari Bakat", and the case of Eyang Subur vs Adi Bin Slamet. The students are very enthusiastic to create this topic because this is the hot topic at this time.

3.5 Techniques for Analysis Data

To analyze the data, there are some steps to know the result of pre-test and post-test used to determine whether the null hypothesis or alternative hypothesis is accepted or not. They are scoring the students written test, calculating the data, and interpretation of the result.

After getting the data of scoring the written work of the students, the researcher give score to students writing test based on rubric score. Giving score of written text is more difficult than multiple choices, so that the researcher consulted with the Mrs. Aan as English teacher at SMAN 1 Sooko Mojokerto about it. Because the teacher is more experience than the researcher in scoring the written text.

After getting the data, the researcher then calculate the data using. The researcher calculates the data used statistic analysis. Statistic analysis that used in this research is Mann-Whitney U and Wilcoxon test. Mann-Whitney U test is

similar with independent simple t test which is two know the significant between two variants. However, Mann-Whitney U test is more flexible than Independent T test.

Mann-Whitney U test is appropriate for ordinal data. Besides the data must not normal distribution. So that, it is make simpler and easier the researcher to analyze the data and the time is more efficient than use independent simple t test. This technique is suitable with the purpose of this research which is want to know the significance of control group which is not conduct the treatment and experiment group which is conduct the treatment.

This statistic analysis is helped by SPSS for windows application. To take the conclusion of the result whether the hypothesis is accepted or rejected, so that it needs do Mann-Whitney U test with see the value of probability. Ha is accepted and Ho is rejected if the significance of probability is more than 0.05 (P>0.05) and in other side Ho is accepted and Ha is rejected if the significance of probability is less than 0.05 (P<0.05).

The researcher is not only use Mann-Whitney U test, but this research also use Wilcoxon test. Wilcoxon is similar with the paired simple t test. This test is for to know the effectiveness of treatment in one variant or group. So that the researcher hope there are significant between before and after the treatment in experiment group. The researcher uses this technique to know the effectiveness of mind map in experiment group.

This statistic analysis is also helped by SPSS for windows application. To take the conclusion of the result whether the hypothesis is accepted or rejected, so that it needs do Mann-Whitney U test with see the value of probability. Ha is accepted and Ho is rejected if the significance of probability is more than 0.05 (P>0.05) and in other side Ho is accepted and Ha is rejected if the significance of probability is less than 0.05 (P<0.05).