CHAPTER III RESEARCH METHODOLOGY

This chapter will focus on a description of the research design, research location and subject, research procedures, data analysis. All of those elements are discussed as follows:

3.1 Approach and Research design

The research is classified as experiment. An experiment research is a kind of research that begins with a question or questions experience, issues, or challenges. These are evaluative and a reflective process, which helps the teachers to explore and examine the aspects of teaching and learning process and to take action, to bring about change and improvement in practice. In this research, the research acts as the observer who observes the real teacher and students' activities when the teaching and learning process take place. Meanwhile, the real teacher acts as practitioner who applies the Buzz group and Jigsaw during the teaching and learning process. ¹⁶

An experiment research has some main procedures that follow certain cycles. It means that the implementation of Buzz group and Jigsaw was repeated six times in order to prove and investigate if Buzz group and Jigsaw promotes the students' speaking ability. For the first meeting was also focused on the observation at the students' activity when the discussion happened besides the technique applied. At the second meeting the researcher

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¹⁶ Suharsimi Arikunto, et al. *Penelitian Tindakan Kelas*. (Jakarta: PT. Bumi Aksara, 2008), cet VII. P. 56

implemented her plan, acted and observed the student' activities. This kinds of activities were done for several times until the researcher found the effective or proper implementation of Buzz group and Jigsaw through buzz group, which could improve the students' speaking ability.

The design of this experiment research used in this study is a meeting process which consists of four steps adapted from Kemmis and Taggart as mentioned bellow:

- 1. Planning the action
- 2. Implement the action
- 3. Reflection
- 4. Observing the action

Considering that, the effectiveness of Buzz group and Jigsaw in the Eleventh grade students of MA Al Muhajirin will be descriptive quantitativequalitative methodology. The effectiveness of Buzz group and Jigsaw in the Eleventh grade students will be described in the form of words rather than in numbers.¹⁷

3.2 Research Population and sample

The setting of this study will be conducted at MA AL Muhajirin. This school is far from the main road so the situation is not very crowded. The subject of this study is the eleventh students of MA AL Muhajirin. There were two classes that were being observed. The researcher had chosen one class randomly; they were class XI of science department. She

¹⁷ Ibid. p. 70

considered the students had different level ability (good, average, and poor). And they need sufficient knowledge to improve their speaking skill and heterogeneous background (some had English course at SLTP or some had not).

3.3 Research Location

The research conducted at eleventh of MA AL Muhajirin Pungging Mojokerto. And this school is located on masjid panjer Street, Panjer Village, Pungging District, Mojokerto Regency.

3.4 Data and source of data

The researcher collected the data by The effectiveness observation checklist, there are two observation checklist employed. First, the observation checklists for the teacher are used to observe the teachers' activities when the real teacher teaches in the classroom, while the observation checklists for the students are used to observe the students' activities during the teaching and learning process in the classroom.

The field notes are used to investigate the teacher's and the students' activities which are beyond the observation checklist. They contain written descriptions of what the observer heard, saw, experienced and thought when reflecting the data during the teaching and learning process in the classroom.

Questionnaires are used to know the students opinion on the strategy of Buzz group and Jigsaw in speaking. Questionnaire is the instrument that contains some written questions including attitude, opinion,

preference, and information. They are also used to know whether the strategy is helpful to solve their problem in speaking class. The questionnaire is done after the students finish doing the speaking activity. ¹⁸

Sets of tests, it can be defined as a method of measuring an individual's ability, skill, or knowledge in some area. ¹⁹ This last instrument is used to see the students' achievement after the implementation of action. In this case, the tests are conducted at the end of meeting. The tests are The effectiveness problem-solving tasks were used to get the data of students' speaking ability. The material tests are adapted from some English books for the eleventh students' of MA AL Muhajirin it can be taken from magazines, newspaper, and internet that were related with the topics of discussion.

The data obtained from the above instruments are to provide information of what aspects of the target, which have been achieved.

3.5 Research Instrument

The researcher uses the questionnaire for dialogue variable.

Questionnaire is the written question that is used for getting information from the respondent about themselves and everything they know.

In this research, the researcher uses the closed direct questionnaire to research the dialogue variable at the eleventh of MA Al Muhajirin.

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Suharsimi Arikunto, Prosedur Penelitian Tindakan Kelas. (Jakarta: PT. Bumi Aksara, 2008), p. 200-206

J. B. Heaton. Writing English tests, (united states of America: Longman, 1989), p. 102-103

The closed direct questionnaire is the questionnaire that is planned to record the data about the condition of the respondent's self. Then, all of the alternative answers that must be answered are stated in the questionnaire.

The researcher uses this kind of questionnaire because the answer choice is available, so the respondent is easier to give the answer. And because of the characteristic of the questionnaire is closed, so the researcher provides three answers. They are A for answer which fulfills the criteria with score 3, B for the answer which fulfils less of the criteria with score 2 and C for the answer which does not fulfill the criteria with score 1.

3.6 Data Analysis Technique

In this research, researcher using a true experimental design. Because there are experimental group and the control group. The extraction is done at random. This can be illustrated as follows:²⁰

R : experimental and control groups were taken randomly.

 O_1 dan O_3 : both groups observed the pre-test to determine the ability of the start, which is expected to begin with the same abilities.

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m O}_2$: the ability of the students who had been given method Buzz group and Jigsaw .

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Prof. Dr. sugiyono, metode penelitian kuantitatif kualitatif dan R&D(Bandung: ALFABETA,2011),159.

 ${\rm O_4}$: the ability of students without being given method Buzz group and Jigsaw.

treatment. over the group as the experimental group were given treatments, which are used in learning speaking by using
 Buzz group and Jigsaw. while the bottom group were not given treatment / control group.

In this case there are two times of analysis. The first analysis to examine differences in the ability of the initial experimental group and the control group $(O_1: O_3)$. The test using t-test. The results are expected There isn't a significant effect of buzz group and jigsaw to improve the students' speaking skill to the eleventh of MA Al- Muhajirin Pungging Mojokerto

The second analysis to test the hypothesis. The statistical technique used is the t-test for two related samples. It is to determine the difference between O_2 and O_4 . If there is a difference which is O_2 greater than O_4 , so the Buzz group and Jigsaw a positive influence, and when O_2 smaller than O_4 , it is the negative effect.²¹

Test "t" or "t" test is one test statistic used to test the truth or falsity of the null hypothesis states that the mean between two samples taken at random from the same population, there are no significant differences.²²

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 $^{^{21}}$ Prof. Dr. sugiyono, metode penelitian kuantitatif kualitatif dan R&D(Bandung: ALFABETA,2011),159.

²² Prof. drs. Anas Sudijono, pengantar stastik pendidikan(Jakarta: PT Raja Grafindo Persada, 2009),278.

1. The first analysis

Many step to examine differences in the ability of the initial experimental group and the control group are follows:

a. Determine the mean of variable I(X), with formula:

$$M_x$$
 or $M_1 = \frac{\sum X}{N_1}$

b. Determine the mean of variable II(Y), with formula:

$$M_y$$
 or $M_2 = \frac{\sum X}{N_2}$

c. Determine the standard deviation of variable X, with formula:

$$SD_x \ or \ SD_1 = \sqrt{\frac{\sum x^2}{N_1}}$$

d. Determine the standard deviation of variable Y, with formula:

$$SD_y or SD_2 = \sqrt{\frac{\sum y^2}{N_2}}$$

e. Determine the standard error of variable X, with formula:

$$SD_{M_{\infty}}$$
 or $SE_{M_1} = \frac{SD_1}{\sqrt{N_1 - 1}}$

f. Determine the standard error of variable Y, with formula:

$$SD_y$$
 or $SE_2 = \frac{SD_2}{\sqrt{N_2 - 1}}$

g. Determine the difference of standard error between men variable I and mean variable II, with formula:

$$SE_{M_1-M_2} = \sqrt{SE_{M_1}^2 - SE_{M_2}^2}$$

h. Determine t_o by using the formula:

$$To = \frac{M_1 - M_2}{SE_{M_1 - M_2}}$$

- i. Provide interpretation of " t_o " with working procedures as follows:
 - 1. Formulate the alternative hypothesis (Ha): there is a significant different mean between variable X and variable Y.
 - 2. Formulate the null hypothesis (Ho): there is not a significant different mean between variable X and variable Y.
- j. Make comparisons between t_o and t_t with the first set a degrees of freedom with the formula:

$$df = (N_1 + N_2) - 2$$

From the result of df, it can be seen t_t at the significance level 5% or 1%. If t_o greater than or equal to t_t then the null hypothesis is rejected. Conversely alternative hypothesis is accepted or approved. Means between the two variables that we are investigating the difference, significantly indeed there is a difference. If t_o smaller than t_t null hypothesis approved or accepted. Conversely alternative hypothesis is rejected. I mean the difference between variable I and variable II was not a significant difference.²³

5. Second analysis

Many step to test the hypothesis are follows:

a. Determine *D* (difference) between the scores of variable I and the score variable II. if the score of variable I we give symbol *X* being variable II we give the symbol *Y*, then:

$$D = X - Y$$
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Prof. drs. Anas Sudijono, pengantar stastik pendidikan(Jakarta: PT Raja Grafindo Persada, 2009),314.

- b. Summing D, in order to obtain ΣD .
- c. Determine the mean of the difference, according to the formula:

$$MD = \frac{\sum D}{N}$$

- d. Squaring D, and then summed to obtain ΣD^2 .
- e. Determine the standard deviation of the difference (SD_D) , using the formula:

$$SD_D = \sqrt{\frac{\sum D^2}{N} - \left(\frac{\sum D}{N}\right)^2}$$

f. Determine an error of the mean of difference (SE_{M_D}) , using the formula:

$$SE_{M_D} = \frac{SD_D}{\sqrt{N-1}}$$

g. Determine t_o by using the formula:

$$t_o = \frac{M_D}{SE_{M_D}}$$

- h. Provide interpretation of " t_o " with working procedures as follows:
 - 1. Formulate first alternative hypothesis (Ha) and null hypothesis (Ho).
 - 2. t_o significansi test, by comparing the magnitude t_o , with the first set degrees of freedom (df), which can be obtained by the formula:

$$df = N - 1$$

- 3. Looking for prices criticism "t" listed in the table value of "t" by adhering to the df which have been obtained, either from the significance level of 5% or 1% significance level.
- 4. Make comparisons between t_o with t_t with the benchmark as follows:

- a) If t_o greater than or equal to t_t then the null hypothesis is rejected. Conversely alternative hypothesis is accepted or approved. Means between the two variables that we are investigating the difference, significantly indeed there is a difference.
- b) If t_o smaller than t_t null hypothesis approved or accepted. Conversely alternative hypothesis is rejected. I mean the difference between variable I and variable II was not a significant difference.²⁴

3.7 Research stages

This research will be conducted at the following procedures like: preliminary study, planning, implementing the plan, observing, and reflection.

A preliminary study was carried out to identify the student problems in teaching and learning speaking skill. In the first preliminary study, the researcher meets the headmaster of MA AL Muhajirin to talk about the plan doing the research at that school. The researcher meets the English teacher for an informal interview and doing direct observation in the teaching and learning process. "Interview is the technique of data collection which is done by researcher". From the analysis, the researcher will find out the students' speaking achievement of speaking ability. The data obtained from those is used to set up an action plan. Then the researcher sends the proposal to headmaster of MA AL Muhajirin.

Prof. drs. Anas Sudijono, pengantar stastik pendidikan(Jakarta: PT Raja Grafindo Persada, 2009),306.

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Suharsimi Arikunto, Prosedur Penelitian Tindakan Kelas. (Jakarta: PT. Bumi Aksara, 2008), cet VII. P. 41

Planning, in relation to the application of action research, the researcher will make a prior preparation to the implementation of the action based on preliminary study. In this case, the researcher will prepare a suitable model of Buzz group and Jigsaw in speaking activities, design a lesson plan, and prepare instructional material and media and instrument, criteria of success and test.

Implement the action, after the planning is finished, the researcher implements the Buzz group and Jigsaw to the eleventh students of MA AL Muhajirin Mojokerto. In this study, the real teacher as the practitioner will carry out the lesson plan while the researcher plays as observer during the instructional process.

Observing the action, in this case, the observation is conducted to identify the classroom activities during the teaching and learning process take place. Observation is conducted when the action is being implemented in the classroom. Observation checklist and field notes are used to facilitate the observer conducting the observation. These observations are used to monitor the teacher's step of action and the student's responds toward the action given by the teacher during the teaching and learning process. The result of the observation and the field notes will become input for the improvement of the teacher performance in the following meeting.

Reflection is concerned with analysis, feedback and adaptation, this action deals with thinking back on what the teacher has done in implementing the action and on the students' behaviors in the class. It is conducted after the

teaching and learning process on each meeting. It is based on the results of the observation and field-notes.²⁶

According to penny Ur "Feedback has two main distinguishable components: assessment and correction". 27

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²⁶ Anne burns *Collaborative Action Research For English Language Teachers*, New York: Cambridge university press, 2003), p. 32-33

Penny, ur, A. Course in language teaching, (Cambridge; Cambridge University Press, 1996).
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