

## **CHAPTER III**

### **RESEARCH METHOD**

This chapter discusses about research design, research setting, population and sample of the research, data and source of data, variable of research, techniques of collecting data, data collection procedure and data analysis procedure.

#### **A. Research Design**

The type of this research is field research which is the writer conduct the research with the way goes to the location directly to observe and found whether there is influence of rewards and punishments on language teaching to the improvement of students' speaking skill at sma banua bilingual boarding school of tenth grade female students on the academic year 2015/2016 or not.

While, the approach is descriptive quantitative focuses on numerical data that is analyzed using statistic method because in this research very relies on numbers about election of subject, result, and to estimate validity and reliabilities of instruments and the data also analyzed quantitatively. According to Gay (2011, p.7) "quantitative research is the collection any analysis of numerical data to describe, explain, predict, or control phenomena of interest by using it, the difference or the relation between the variables will be gotten, and Ary (1975:295) states;

Descriptive research studies are designed to obtain information the current status of phenomenon. They re directed toward determining the nature of a situation, as it exists at the time of the study. There is no administration of control of treatment as it is found in experimental research. The aim is to describe 'what exist with respect to variable or conditions in a situation.

In doing so, the researcher intend to use descriptive quantitative research to complete this research and concluded this research inductively.

Observation, questionnaire, interview and documentation are used in this research to find out the kind of rewards and punishments and to find out the influence of rewards and punishments on language teaching to the improvement of speaking skill at SMA Banua Bilingual Boarding School of tenth grade female students.

The statistical analysis used in this research is multiple regression formula, this technique used to find the influence of two predictor variables, or to find the functional relationship of two or more of the predictor variables or variable criteria for predicting two or more predictor variables to variable criteria. Thus multiple regression is used for research that includes several variables at once (Hartono, 2004: 140).

## **B. Research Setting**

This research has conducted for 2 months from 12 februari-12 April 2016 at SMA Banua Bilingual Boarding School at Banjarmasin of tenth grade female students on the academic year 2015/2016. It is located on Jl. Ahmad Yani Km.17 Gambut, Banjarmasin. This school is choosen because the writer looked at this phenomenon as an interesting problem. The language teaching at SMA Banua Bilingual Boarding School is different from other schools. SMA Banua Bilingual Boarding School is International school that use English. It can be seen from the use of the English and Turkey as an instruction language. Therefore, the writer very interested in doing research in that school.

This research will disclose the fact that happens in this school especially about reward and punishment on language teaching to the improvement of students' speaking skill.

### C. Population and Sample of the Research

In quantitative research, the writer needs to establish the population and sample. It is based on Mc Kay's statement (2006, p.6) who defines that "quantitative research method is used to analyze population and sample". It begins with research questions and hypotheses which have been stated in the first chapter in order to verify which of such hypotheses are true. To get better understanding about the population and sample of this research, both will be discussed here.

#### 1. Population of The Research

The population of this research is the tenth grade students of SMA Banua Bilingual Boarding School. The total amount of tenth grade is 72 students, which consists of four classes as can be seen in the following table.

Table 3.1 Description of the population of the tenth grade students of SMA Banua Bilingual Boarding School on the academic year 2015/2016

No	Class	Sex	Amount
1	A	Male	15
2	B	Male	18
3	C	Female	19
4	D	Female	20
	Total Amount		72

## 2. Sample of the Research

According to Sudijono (2014, p. 28) sample is the technic to collect the data to examine a small portion of the whole element which is the object of research. In this study the writer uses purposive sampling to get the participants as the sample of this study. This technique is done by determining the specific criteria or considerations specific characteristics of the sample or subjects of the research (Rahmadi, 2001, p. 59). While the writer only focus on the tenth grade female students class C and D, the writer do not choose class A and B, because that's male class and based on the pre-observation, it's difficult to give the permission to meet with male class. Because there is a separation between males and females class, based on school rules of SMA Banua Bilingual Boarding School. The description of the sample of this study can be seen clearly on the table.

Table 3.2 Description of the sample of the tenth grade female students of SMA Banua Bilingual Boarding School on the academic year 2015/2016

No	Class	Sex	Amount
1	C	Female	19
2	D	Female	20
	Total Amount		39

## D. Data and Source of Data

### 1. Data

The data in this research are:

- a. The kind of rewards and punishments that teachers used on language teaching to the improvement of students' speaking skill of tenth grade female students at SMA Banua Bilingual Boarding School.

- b. The influence of rewards and punishments that teachers used on language teaching the improvement of students' speaking skill of tenth grade female students at SMA Banua Bilingual Boarding School.

## 2. Source of Data

The data is taken through some sources as follow:

- a. Respondents : They are 39 Students at the tenth grade female students class C and D at SMA Banua Bilingual School.
- b. Informants : English teacher, Tutor, Headmaster and administrative staff of SMA Banua Bilingual School.
- c. Documents : All written reports that are needed in this research

## **E. Variables of Research**

Variables can be defined as any aspect of a theory that can vary or change as part of the interaction within the theory. In other words, variables are anything that can affect or change the results of a study. In this research, there are 2 variables.

### 1. Independent Variable

Independent Variable is variable that influences or those to be cause of change or emergence the dependent variable (Sugiyono, 2013, p.64). Independent variable in this research is rewards and punishments of tenth grade female Students at SMA Banua Bilingual Boarding School (X).

### 2. Dependent Variable

Dependent variable is affected or that to be the result because of the existence of the independent variable (Sugiyono, 2013, p.64). Dependent Variable in this

research is speaking skill of tenth grade female Students at SMA Banua Bilingual Boarding School (Y).

## **F. Technique of Collecting the Data**

The techniques of data collection will be used in this study are observation, questionnaire, interview and documentation.

### 1. Observation

Observation is define as watching of behavioral patterns of people in certain situations to obtain information about phenomenon of interest. Which is an important way to collecting information about people do not always do what they say do. (Cristensen, in Sugiyono, 2013, p.196). This instruments used in observation are observation guide shaped blank or form. Observation is doing when the teacher and students' practice teaching and learning English (speaking).

In this research, the researcher tries to find kind of rewards and punishments by using observation, based on students' activity and participation in learning English (speaking). The researcher takes ten statements from questionnaire to show that the answer from the students in questionnaire is right and based on the fact in classroom activity. There are ten statements by indicating whether the score of each statement:

Table 3.3. The categorized of observation data in the following criteria:

Answer	Score
Excellent	4
Good	3
Low	2
Poor	1

## 2. Questionnaire

Questionnaire is a set of questions or statements that answered by responded or students according to the instructions Sugiyono (2013, p.193). The writer used *likert* scale. *likert* scale used to measure attitude, opinion, and perception of someone or community about social phenomenon (Sugiyono, 2015, p.93). This is to gain the data about the kind of rewards and punishments.

In this research, the researcher will provide 20 statements of questionnaires which have been done in 30 minutes by the students. These questions consist of 10 statements of about reward and 10 statements of about punishment. The description of the test forms can be seen clearly in the table below.

Table 3.4. Description of the questionnaire forms for the tenth grade female students of SMA Banua Bilingual Boarding School on the academic year 2015/2016

Variable	Indicator	Number of items
Reward	1. Students' acceptance of the reward	1, 2
	2. Students' perceptions of the reward	3, 4, 5
	3. The psychological effects of reward	6, 7, 8, 9, 10
Punishment	1. Students' acceptance of the punishment	11, 12
	2. Students' perceptions of the punishment	13, 14, 15
	3. The psychological effects of punishment	16, 17, 18, 19, 20

Table 3.5. The categorized of questionnaire data in the following criteria:

Answer	Score
Totally Agree	4
Agree	3
Disagree	2
Totally Disagree	1

In addition, Sugiyono (2015, p. 122) says that a good instrument (test or non-test) must be valid and reliable. Therefore, the questionnaire of validity and reliability had to be done in order to test the questionnaire items whether they were valid and reliable or not before collecting the data.

a. Validity Test

Validity test was conducted to get the valid questions given for the test. Sugiyono (2015, p.121) says that a valid instrument means a measuring instrument which is used to get valid data. To measure the validity of the test items were measured with the formula below:

$$r_{xy} = \frac{N\sum XY - (\sum X)(\sum Y)}{\sqrt{\{N\sum X^2 - (\sum X)^2\} \{N\sum Y^2 - (\sum Y)^2\}}}$$

**Explanations:**

$r_{xy}$  : the correlation of product moment

N : number of respondents

X : number of test items

Y : the total of the students' score (Arikunto, 2013, p. 87)



If the Sig shows  $< 0.05$ , it means the item is valid. From 30 questionnaires given in tryout, there were 20 questionnaires which were valid, while there were 10 questionnaires which were invalid. The researcher only used the valid questionnaires for this questionnaire. Table below shows the question numbers which were valid and invalid.

Table 3.6. The Result of Validity Questionnaire

No	Item	Questionnaire Number
1	Valid	1, 2, 3, 5, 8, 9, 11, 12, 13, 15, 16, 18, 19, 21, 22, 23, 25, 26, 28, 29.
2	Invalid	4, 6, 7, 10, 14, 17, 20, 24, 27, 30.

b. Reliability

Sugiyono (2015, p. 121) explains that a reliable instrument is an instrument which is used to measure a same object will get same data in many times. It was measured with the formula of Croncbach's alpha below:

$$r_{11} = \left( \frac{n}{n-1} \right) \left( 1 - \frac{\sum \sigma_i^2}{\sigma_t^2} \right)$$

**Explanations:**

$r_{11}$  : the reliability of the items

$\sum \sigma_i^2$  : number of various score in each item

$\sigma_t^2$  : total of various score

If  $r_{11} \geq r_{tabel}$ , it can be stated that the test item is reliable. Whereas if

$r_{11} < r_{tabel}$ , it can be stated that the test item is unreliable.

### 3. Interview

Interview is form on which the writer records answer supplied by the participant in the research. the writer ask a question for an interview guide, listens for answer or observes behavior, and records responses on the survey (Sugiyono, 2013, p. 188). The purpose of interviewing people is to get more information about the kind of rewards and punishment on students' speaking skill and the influence of rewards and punishment on language teaching to the improvement of students' speaking skill. The writer interviews 2 English teachers and 2 students to find out from them those things that the researcher can not observe directly.

### 4. Documentation

This instrument was used by the writer to get information about the students' score of speaking skill, the total students, the list of students' name, the list of teachers' name, organization structure of institute, facility and infrastructure, are geographical location, the students' and teachers' data, vision and mission and material provided by English teacher.

## **G. Data Collection Procedure**

### 1. Editing

This technique is used in the purpose of examining all the collected data to make sure whether the data are already completed or no.

### 2. Coding

The writer makes certain codes on all the collected data to classify them into categories.

### 3. Tabulating

The writer tabulates all the collected data based on the frequency computation. To calculate the percentage score, the researcher uses the following formula:

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

#### **Explanations:**

P = Percentage

F = Frequency

N = Total of Respondents

### 4. Interpreting

In this step the data is interpreted on tabulated data. The writer needed a measurement design to know and assessing the category.

Table 3.7. The Categorized Score of Rewards and Punishments

Score	Category
30 – 40	Very Good
20 - < 30	Good
10 - < 20	Fair
1 - < 10	Low
0	Very Low

Table 3.8. The Categorized Score of Student's Speaking Score

Score	Category
90 – 100	Excellent
80 - < 90	Good
70 - < 80	Fair
60 - < 70	Low
50- < 60	Very Low

*Source: SMA BBBS*

## H. Data Analysis Procedure

The next process after all data have been collected, then also have to processed using statistics to find out the kind of rewards and punishment and to find out the influence of rewards and punishments on language teaching to the improvement of students' speaking skill. The steps are:

1. Collect the data to find out the kind of rewards and punishments of tenth grade female students by using observation and questionnaire to get the variable X.
2. After that the writer used regression formula to determine the influence of reward and punishment on language teaching to the improvement of students' speaking skill, The steps are :
  - a. Used the regression formula, as follow:

$$1) Y = an + b_1 \sum X_1 + b_2 \sum X_2$$

$$2) {}_yX_1 = a\sum X_1 + b_1 \sum X_1^2 + b_2 \sum X_1 X_2$$

$$3) {}_yX_2 = a\sum X_2 + b_1 \sum X_1 X_2 + b_2 \sum X_2^2$$

### Explanations:

Y : Amount of Variable Y

a : Constanta

n :Amount of Respondents

$b_1$  :Regression Coefficient  $X_1$

$\sum X_1$ : Amount of  $X_1$

$b_2$  :Regression Coefficient  $X_1$

$\sum X_2$ : Amount of  $X_2$

${}_yX_1$  : Amount of  ${}_yX_1$

$\sum X_1$  : Amount of  $X_1$

$\sum X_1^2$  : Amount of  $X_1^2$

$\sum X_1 X_2$ : Amount of  $X_1 X_2$

$\sum yX_2$  : Amount of  $yX_2$

$\sum X_2$  : Amount of  $X_2$

$\sum X_1 X_2$ : Amount of  $X_1 X_2$

$\sum X_2^2$  : Amount of  $X_2^2$

b. Then, The regression tested by using equation regression as formula:

$$1) \quad \sum X_1 Y = \sum X_1 Y - \frac{(\sum X_1)(\sum Y)}{n}$$

$$2) \quad \sum X_2 Y = \sum X_2 Y - \frac{(\sum X_2)(\sum Y)}{n}$$

$$3) \quad \sum Y^2 = \sum Y^2 - \frac{(\sum Y)^2}{n}$$

**Explanations:**

$\sum X_1 Y$ : Amount of  $X_1 Y$

$\sum X_1$  : Amount of  $X_1$

$\sum Y$  : Amount of  $Y$

$\sum X_2 Y$ : Amount of  $X_2 Y$

$\sum X_2$  : Amount of  $X_2$

$n$  : Amount of Respondents

$\sum Y^2$  : Amount of  $Y^2$

3. The next step is the writer count  $R_{\text{count}}$  using the formula:

$$R_{\text{count}} = \frac{\sqrt{(b_1)(\sum X_1 Y) + (b_2)(\sum X_2 Y)}}{\sum Y^2}$$

**Explanations:**

$b_1$  : Regression Coefficient  $X_1$

$\sum X_1 Y$  : Amount of  $X_1 Y$

$B_2$  : Regression Coefficient  $X_1$

$\sum X_2 Y$  : Amount of  $X_2 Y$

$\sum Y^2$  : Amount of  $Y^2$

4. After  $R_{\text{count}}$  were obtained the next step is to count  $F_{\text{count sign}}$  by the formula:

$$F_{\text{reg}} = \frac{R^2(n-m-1)}{m(1-R^2)}$$

**Explanations:**

$R^2$  : Amount of  $R_{\text{count}}$  quadrated

n: number of respondents

m: number of predictors

5. Then the writer giving interpretation with consulting **f table**.

- a. Looking for Degree of Freedom

df/db : (N- 2)

**Explanations:**

df/db : Degree of Freedom

N : Number of Respondents

2 : Value of degree of freedom for variables

- b. Consulting score of “df/db” with “**f table**.” In significant degrees t table 5% =

3.25 and 1% = 5.23

**f table** : Value of critic “**f**”

6. Then, the writer makes a conclusion.
  - a. If  $f_{\text{count}} < f_{\text{table}}$  the hypothesis null ( $H_0$ ) is accepted and hypothesis alternative ( $H_a$ ) is rejected.
  - b. If  $f_{\text{count}} > f_{\text{table}}$ , the hypothesis null ( $H_0$ ) is rejected and hypothesis ( $H_a$ ) is accepted.