CHAPTER III

RESEARCH METHOD

In this chapter, the writer presents research method that will be used in this research. It includes research design, variable of the research, population and sample, research instrument and data analysis. Each item is discussed as follows.

A. Research Design

A Quasi-experiment research was used in this research where two groups were selected. This study was carried out by comparing the scores of the experimental and control groups. The class that was taught utilizing Task-Based Language Teaching was the experimental group. While, the class which was taught by using Tutorial Card was control class. This research used use Quasi-experimental research. In addition, 2 x 2 factorial designs were used in this investigation. This kind of factorial design was used to acquire empirical information about the impact of task-based language teaching (TBLT on students' grammar mastery with different levels of critical thinking. The researcher employed an experimental design adapted from Creswell in connection to the system described above, as shown below:

Table 3.1
The Illustration of Factorial Design

Method/Approach / **Critical Thinking**	**TBLT (G1)**	**CARD (G2)**	**Total**
High critical thinking (C1)	G1C1	G2C1	∑C1
Low critical thinking (C2)	G1C2	G2C2	∑C2
Total	∑G1	∑G2	Total

Note:

G1C1: TBLT with high critical thinking

G2C2: Card with high critical thinking

G1C2: TBLT with low critical thinking

G2C2: Card with low critical thinking

This experimental study used two groups, namely experimental group and control group. The experimental group comprised of 20 students in class A who were taught using TBLT. Meanwhile, the control group consisted of 20 students from class B who employed card as their strategy. The two classes were given the same material with the same allocation time. Six meetings are scheduled for teaching and learning with two additional meetings scheduled for pre test and post-test.

B. Variable of the research

The variables in this study were classified into three categories, they were Independent, dependent and moderator variables. The independent variable was the one that was not influenced by the dependent variable, whereas the dependent variable was the one that was. The effects of Task-Based Language Teaching on students' grammatical mastery with different levels of critical thinking was investigated in this study. There were two independent factors and one dependent variable in this study. Task-Based Language Teaching was the independent variables, whereas grammatical mastery was the dependent variable and critical thinking was moderator variables. It describes as follow:

$X_{1:}$ The independent variable (TBLT)

$Y_{1:}$ The dependent variable (Grammar)

Y_2: The moderator variable (Critical thinking)

The relationship between the independent and dependent variable is explained as follows: TBLT influences students' grammar mastery, critical thinking influences students' grammar mastery, and finally the interaction between TBLT influence students' grammar mastery with different levels of critical thinking.

C. Population and Sample

To know the effectiveness of Task-based language teaching, the researcher needs population and sample. Each of items is discussed as follows:

1. Population

   A population can be described as everyone who belongs to a specific group of people, an event, or an object. As Ary stated that population was the larger group about which the generalization was made.[28] Based on the aforementioned description, the writer can take the conclusion that the population comprised the entire research subject. The participants of this research are students Happy English Course 1. While, the population in this research are taken from Candidate Training Class program (CTC). Each class consists of twenty and twenty.

2. Sample

   A sample is a set of subjects or participants (students) is chosen from a population to serve as a representative sample. Because the population is too huge to be researched in its entirety, a sample must be collected from the population in order for it to be representative of the complete population. In this research, the writer can use the sample which is taken from the population. CTC

[28] Ary et al., *Introduction to Research.*,148.

class A was chosen as the experimental group which was taught using TBL while CTC class B was chosen as the control group which was taught using tutorial card.

D. Research Instrument

This research used test in the form of grammar as the instrument to collect the data about the students who have better ability in grammar. In this study, the type of grammar test was multiple choice. This test helped to collect the data about the students' achievement to have better ability in grammar. This test had 25 questions and had been tried out before being utilized in this study. On pre-test and post-test, students were given the same questions, but in a different arrangement. On the other hand, the researcher used test critical thinking to measure students have low or high critical thinking. The test was adopted from Talentlens' Waston Glaster Critical Thinking Appraisal. There were five parts in this test (Inference, recognition of assumption, deduction, interpretation, evaluation of arguments). Total questions of the test is seventeen questions.

This study, researcher conducted the content of validity of the test and the reliability using SPSS, difficulty of question and discriminating power to get the good question. A good question was a question that is not too easy or not too difficult. The questions which were too easy do not stimulate students to step up their efforts to solve them. On the other hand, the questions which were too difficult will make students to despair and not have any spirit to try because it is beyond their ability.[29]

After checking the validity and reliability of the instrument the researcher chooses the valid and reliable tests. Then, the tests are

[29] Suharsimi Arikunto, *Dasar-Dasar Evaluasi Pendidikan*, (Yogyakarta:PT.BINA AKSARA,1984), hlm. 159.

divided into experimental and control groups. Two types of tests are provided to students in this test. They are as following bellow:

1. Instrument of Grammar test

The tests were used in this study to evaluate students' development after Task-Based Language Teaching has been incorporated into the teaching-learning process. Pre-test and post-test were conducted by the researcher. The purpose of the pre-test is to determine the students' actual condition before receiving treatment and knowing their current level of performance.

Both classes will be given a grammar test. The test form was written test of grammar ability. The material consists of Simple present, Simple Past, and Simple Future. The students conducted it in 60 minutes to complete the test. Post-test were given to the both of classes after getting treatment.

The instrument of grammar test can be seen on appendix 1.

While, the guide to construct the test items will be showed on the table below:

Table 3.2: Blue print of grammar test

Basic Competence	Indicators	Items of test	Total
Understanding, applying and analyzing the structure in English which can be applied in daily life.	1. The students are able to identify the structure of the text. - The structure of simple present - The structure of simple past - The structure of simple future	7, 12, 14, 18, 23, 25 (14, 18) (7,12) (23,25)	6 10
	2. The students are able to identify the	2, 4, 5, 8, 10, 13, 16, 19,	9

Basic Competence	Indicators	Items of test	Total
	auxiliary verb which can be used in the text.	22, 24	
	- Auxiliary verb of simple present	(19,22,24)	
	- Auxiliary verb of simple past	(10,13,16)	
	- Auxiliary verb of simple future	(2,4,5,8)	
	3. The students are able to identify the ordinary verb (finite) which is used in the text.	1, 3, 6, 9, 11, 15, 17, 20, 21	
	- Finite verb of simple present	(1,3,6)	
	- Finite verb of simple past	(9,11,15)	
	- Finite verb of simple future	(17,20,21)	
	Total		25

a. The validity of the instrument

Before being used as an instrument, the researcher gave the test to 20 students as a tryout. The students' score for each test calculated by using the coefficient correlation formula of *Pearson Product moment* with SPSS 16.0. Each items are considered to be valid, if the value of $r_{obtained} > r_{table}$ from 20 samples with significance level 5% the r_{table} changed into 0,444. The result of validity grammar test show in the table below.

Table 3.3: The output of validity Grammar test

	r-obtained	r-table (N = 20, a = 5%)	Notes
ITEM 1	0,912	0,444	Valid
ITEM 2	0,607	0,444	Valid
ITEM 3	0,692	0,444	Valid
ITEM 4	0,912	0,444	Valid
ITEM 5	0,671	0,444	Valid
ITEM 6	0,607	0,444	Valid
ITEM 7	0,912	0,444	Valid
ITEM 8	0,748	0,444	Valid
ITEM 9	0,748	0,444	Valid
ITEM 10	0,671	0,444	Valid
ITEM 11	0,912	0,444	Valid
ITEM 12	0,912	0,444	Valid
ITEM 13	0,912	0,444	Valid
ITEM 14	0,692	0,444	Valid
ITEM 15	0,748	0,444	Valid
ITEM 16	0,692	0,444	Valid
ITEM 17	0,912	0,444	Valid
ITEM 18	0,748	0,444	Valid
ITEM 19	0,748	0,444	Valid
ITEM 20	0,912	0,444	Valid
ITEM 21	0,748	0,444	Valid
ITEM 22	0,748	0,444	Valid
ITEM 23	0,912	0,444	Valid
ITEM 24	0,748	0,444	Valid
ITEM 25	0,912	0,444	Valid

Based on the table above, The $r_{obtained}$ for all items are bigger than r_{table}. So, all the items of test are valid.

b. The reliability of the instrument

After calculating the validity test, the researcher calculated the scores of test to find out the reliability. To find the reliability, the

researcher using *Cronbachs Alpha* with SPSS 16.0. The result of reliability test show in the table below.

Table 3.4

The output of Reliability of Grammar test

Reliability Statistics

Cronbach's Alpha	N of Items
.973	25

Based on the data above, show that the score of the *Cronbachs Alpha* score is 0.973, it can be concluded that the data were very reliable.

2. Instrument of Critical Thinking

Critical thinking is skillful and active method of interpreting and evaluating observations, communications, information, and arguments. The written test of critical thinking was adopted from Talentlens' Waston Glaster Critical Thinking Appraisal (WGCTA). It is the most common critical thinking test. The Watson Glaser format is used in most other critical thinking examinations. Many changes and improvements have been made to the test as a result. There are five parts of critical thinking test that the Watson glister format has.

The first test is inference, an inference is a conclusion that a person can reach based on specific facts that have been observed or assumed. The kind of this part is multiple choice section, the participant will choose the best answer according the statement. It has four questions and five answers; True (T), Probably True (PT), Insufficient Data (ID), Probably False (PF) and False (F). Second test is recognition of assumption. This part of this question tells

something that is assumed or assumed to be true, so this question is yes no question and it has four questions in this sections. Deduction is the third test, it has three questions and yes no answer is the kind of the answer. Consider all of the statements in each exercise to be true is the purpose of this section test. The test will be continued by interpretation test. This section consists of four questions with yes no answer. The question are analyzing a piece of information. The last part is evaluation and arguments, the participant will take important decision in the questions. Three questions will be in this section and multiple choice is the kind of the answer.

Table 3.5: Blue print of Critical Thinking

No	Components of critical thinking skill	Indicators	Questions	Item of the test	
1.	Inference	Determining whether the inference true or not	Examine each inference separately and decide whether or not it is true or false	1,2,3,4	4
2.	Assumption	Choosing which assumptions are logically justified based on data presented in the statement, and thus logically justified	Determine whether a person making a particular assertion is justified or not for each assumption	5,6,7,8	4
3.	Deduction	They must decide if they believe each conclusion follows from the statement supplied by	Consider whether or not the statements in each exercise follow the	9,10,11	3

No	Components of critical thinking skill	Indicators	Questions	Item of the test	
		reading each conclusion beneath the statement	conclusion		
4.	Interpreting information	Analyzing a piece of information	Determine whether the proposed conclusion based on the information in the paragraph is reasonable	12,13,14	3
5.	Analyzing arguments	Distinguishing between the two arguments whether it is a powerful or weak argumentation	Determine whether the argument is strong or weak	15,16,17	4
6.	**Total**				17

a. The validity and Reliability of Critical Thinking

The researcher used SPSS.16.0 to compute the validity and reliability of critical thinking test. The table below showed the dependability of critical thinking as a consequence of this study.

Table. 3.6

The output Reliability of Critical Thinking

Reliability Statistics

Cronbach's Alpha	N of Items
.768	17

Based on the data above, showed that the $r_{obtained}$ was bigger than r_{table}. It can be concluded that this critical thinking test is realiable.

E. Method of Collecting Data

The method of collecting data that is used by the researcher is written test. This research uses grammar test to measure students' grammar ability, multiple choice is chosen by the researcher to be kind of test. On a pre-test and post-test will be given to both classes. There are 25 questions in total. In scoring the test, each incorrect answer gets 0, and correct answer gets score 1. The highest score is 25. The overall score of the students is multiplied by four. As a result, the top students' score is 100. After getting students' score from pre-test and post-test the researcher will calculate by analyzing ANCOVA using SPSS 16.0.

F. Treatment Procedure

The students are given treatment by using TBLT method for experimental class and Tutorial Card method for control class. This treatment is conducted on six meetings and each meeting has 90 minutes. The procedure of the treatment in this research will show on the table 3 below:

Table 3.7: Treatment Procedure

Experiment Class (Using TBL)	Control Class (using conventional-Tutorial Card)
Pre-Task - Tell the topic and assignment to the class by mentioning apperception related with the topic. **Task-Cycle** - Students do the task in their groups to complete the	**Explanation** - The teacher writes and explains the material on the white board. **Practice Tutorial Card** - The teacher gives the example how to use the correct sentences using

Experiment Class (Using TBL)	Control Class (using conventional-Tutorial Card)
activity while the teacher double-checks if the report's aim is clear. - Students Prepare to record each other. Then, give a report to the class on how the students completed the assignment and what decisions they reached. - Students make oral reports to the class, and the teacher may provide brief remarks. **Post- Task** - Each group of student discusses and create a conclusion of the material that they get in learning activity.	card based on the pattern of the material, and the students repeat and follow what the teacher practices to them. **Evaluation** - The teacher gives the task and the students try to answer the question.

G. Data Analysis

A quantitative data analysis technique was applied in this study. This study's quantitative data was examined utilizing a statistical method.. There were a few steps involved in data analysis. The researcher begun by collecting data from the pre-test and post-test scores. The data was then analyzed and compared by the researcher. To determine the effect of the Task-Based Language Teaching, the data was analyzed and compared using the two ways ANCOVA in SPSS 16.0. The hypothesis test was used to determine whether the null hypothesis should be accepted or rejected. In order to test hypothesis, the two ways ANCOVA was applied. If the level of significance was less than 0.05, the hypothesis is accepted. The reseacher used SPSS 16.0 to do analysis of normality test, homogeneity test and hypothesis testing.