CHAPTER III

RESEARCH METHOD

This chapter conveys a description of the method used in this study which includes design of research, population and sample or subjects, instrument of research, validity and reliability testing, data collection method, and data analysis.

A. Research Design

The research design employed in this study is quantitative research. Quantitative research is done through collecting numerical data to be analyzed mathematically based on particular statistic methods to explain the phenomena (Aliaga and Gunderson, 2002). Quantitative also means making generalization from sample to population (Perry, 2005).

In this study, the researcher used Quasi-experimental design. There are two groups or two classes which are selected by researcher. To see the treatment result, the researcher administered pre-test and post-test. This research method is done through three main steps namely pre-test, treatment, and post-test to find out the effectiveness of Modified Asian Parliamentary Debate towards students' critical thinking and speaking ability. Nonequivalent sample which were experimental and control group was the sample used in this study since random sample was not used (Jackson, 2008). The illustration of this study can be drawn in table 3.1.

Table 3.1: Two Groups Pre-test and Post-test Design

Group	Pre-test 1	Pre-test 2	Independent Variable	Post-test 1	Post-test 2
Experimental Class	Y1	Z1	X	Y2	Z2
Control Class	Y3	Z3	-	Y4	Z4

Explanation:

Y1 : Students' critical thinking score of experimental class (XI MIA 1) on Pre-test

Y3 : Students' critical thinking score of control class (XI IIS 1) on Pre- test

X : Using Modified Asian Parliamentary Debate for the treatment

- : Not using Modified Asian Parliamentary Debate or using conventional method

Y2 : Students' critical thinking score of experimental class (XI MIA 1) on Post-test

Y4 : Students' critical thinking score of control class (XI IIS 1) on Post-test

Z1 : Students' speaking ability score of experimental class (XI MIA 1) on Pre-test

Z3   : Students' speaking ability score of control class (XI IIS 1) on Pre- test

Z2   : Students' speaking ability score of experimental class (XI MIA 1)

on Post-test

Z4   : Students' speaking ability score of control class (XI IIS 1) on

Post-test

There are two groups which are stated on the table above. The experimental group receives a treatment (X), while the control group does not receive the treatment. Then to get the data about students' prior ability, the researcher gave those two groups pre-test. The experimental group is given treatment by using Modified Asian Parliamentary Debate (X), while the control group is being taught by using regular methods.

B. Population and Sample

1. Population

Population is a general area consisting of research subjects (Seltman, 2015). The research population is all eleventh graders of MAN 3 Blitar in the Academic Year 2019/2020 as many as 359 students that were divided into 10 classes as written in table 3.2.

Table 3.2: Population of Research

No.	Class	Gender	
		Male	Female
1.	XI MIA 1	10 students	27 students
2.	XI MIA 2	9 students	27 students
3.	XI MIA 3	10 students	28 students
4.	XI IIS 1	4 students	30 students
5.	XI IIS 2	8 students	27 students
6.	XI IIS 3	8 students	27 students
7.	XI IIS 4	7 students	28 students
8.	XI IIS 5	10 students	25 students
9.	XI IIK 1	9 students	28 students
10.	XI IIK 2	12 students	25 students
Total students		359 students	

2. Sampling

The type of sampling used in this study was non-probability sampling. It means each individual does not have the same opportunity to be selected as sample. In other word, it does not use randomization. Meanwhile the sample

technique used in this study was purposive sampling. Sugiyono (2015) stated that purposive sampling is technique to determine the sample considerately. Thus, purposive sampling means the selecting sample is based on the criteria. Hence, the researcher chose the average ability of a class that has a tendency to develop their skill after being given treatment by Modified Asian Parliamentary Debate. To know the average ability between those classes, the researcher got information for the English teacher who teaches those classes. Therefore, the researcher determined those classes as the samples of this study since those two classes have the average ability. In addition, the researcher used SPSS 24.0 version to prove it.

3. **Sample**

Sample is the observed population representation (Arikunto, 2016). Since the population number is many, the researcher focuses on two classes to determine the sample and uses purposive sampling to consider some qualifications. The purposive sampling technique, also called judgment sampling, is the intentional choice of a participant by considering the qualities (Ilker, 2017). In line with considering the qualities, the researcher gets suggestions from English teacher to make sure that selected sample is proper with qualification. Because of those suggestions, XI Science 1 and XI Social 1 are chosen. According to English teacher of MAN 3 Blitar, those two classes have similar capability and ability since they are two bilingual classes, they are cooperative enough, they are taught by argumentative writing, and they have characteristics that are equal both in writing and speaking. To show their

equality, the researcher use Independent Sample T-Test for their Pre-Test Score
which is computed by using SPSS 24.0. The equality of experimental and
control class in both abilities can be seen in table 3.4 and 3.5.

Table 3.3 Sample of Research

No.	Class	The Number of Students
1.	XI MIA 1	37
2.	XI IIS 1	34

Table 3.4 Students' Equality in Critical Thinking

		Levene's Test for Equality of Variances		t-test for Equality of Means						
Independent Samples Test										
		F	Sig.	t	Df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
STUDENTS SCORE	Equal variances assumed	2.055	.157	1.921	58	.060	1.867	.972	-.078	3.812
	Equal variances not assumed			1.921	56.869	.060	1.867	.972	-.079	3.813

Table 3.5 Students' Equality in Speaking Ability

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	T	Df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
STUDENTS SCORE	Equal variances assumed	.950	.334	1.017	58	.313	.833	.820	-.807	2.474
	Equal variances not assumed			1.017	56.894	.314	.833	.820	-.808	2.475

(Table header: Independent Samples Test)

In table 3.4, the value of Sig (2-tailed) is 0.06 which is bigger than 0.05. It indicates that there is no difference in data variance or in other words, students' critical thinking in experimental and control class is equal.

While in table 3.5, the value of Sig (2-tailed) is 0.3 which is bigger than 0.05. It shows that there is no difference in data variance or in other words, students' speaking ability in experimental and control class is equal.

C. **Research Variables**

1. **Independent Variable**

Independent variable is one variable affecting another one. In this study, applying Modified Asian Parliamentary Debate strategy is an

independent variable because it affects other variables namely students' critical thinking and speaking ability.

2. **Dependent Variable**

Dependent variable is those variables affected by another one. In this study, students' critical thinking and students' speaking ability are dependent variables.

D. **Research Instrument**

Research instrument means the tool which is used in data collection. To get the data which were needed, the researcher applied test as a research instrument. In this study, the researcher conducted pre-test and post-test.

1. Pre-test

A pre-test measures determined and assessed characteristics for participants in an attempt prior a treatment (Creswell, 2008). In this study, the pre-test was administered before giving treatment by using Modified Asian Parliamentary Debate. Pre-test was administered to find out the basic competence and knowledge. Because this study has two dependent variables, the researcher gave two kinds of test. A writing test measured students' critical thinking, while the speaking test was used to measure students' speaking ability.

2. Post-test

A post-test is a measurement on certain attributes or characteristics in an experiment subsequent to a treatment (Creswell, 2008). Post-test was

administered to compare the students' critical thinking and speaking ability between experimental group and control group. The test items of the post-test are exactly the same as pre-test, but with the different topic.

E. Validity and Reliability Testing

Instrument (test) needed to be valid and reliable which was proven by doing validity and reliability testing since valid and reliable test is integral part before conducting a study. To make the instrument valid and reliable, the researcher did these ways which can be figured as the table 3.6:

Table 3.6: Valid and Reliable Instrument Process
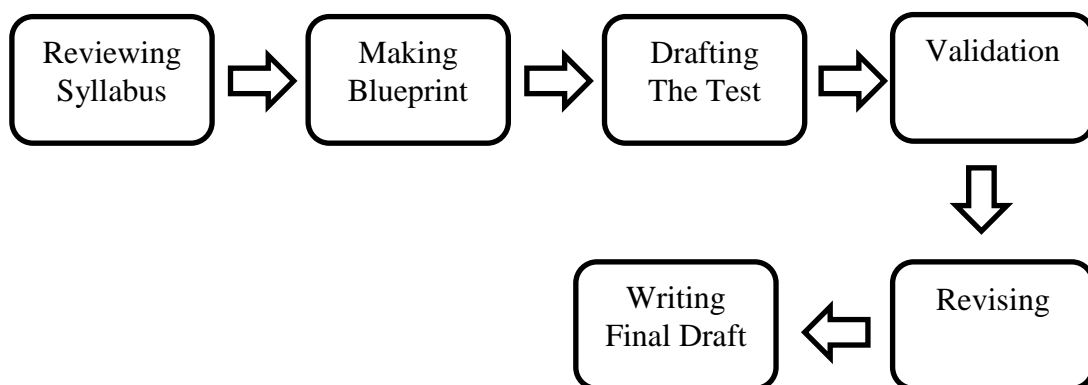
Based on the table 3.6, firstly, the researcher reviewed the syllabus then made blueprint to draft the test. The blueprint can be written in the table 3.5 below:

Table 3.7: Blueprint

Construct	Variable	Indicator	Question / task
Speaking ability is a productive ability that can be directly and empirically observed. Students produce their speech to communicate. When students produce it, there are some points can be measured, such as comprehension, fluency, vocabulary, pronunciation, and grammar. (Brown, 2004)	1. Comprehension 2. Fluency 3. Vocabulary 4. Pronunciation 5. Grammar	1. Students are able to understand everyday conversation and normal classroom discussion. 2. Students are able to speak in everyday conversation and classroom discussions fluent and effortless. 3. Students are able to use appropriate	1. Students are given certain simple topic. 2. The researcher defines that topic briefly and explain that students have to show their stand and give their own arguments and toward that topic. 3. Researcher conveys some aspects of speaking ability being assessed.

Ability to identify issues, contexts, perspectives, assumptions, evidence, and implications of a case. (Ulil, 2016)	ion of assumption 5. Identification of evidence 6. Identification of implication 7. Identification of reasoned judgment	identify embedded or implicit issue, address their relationship to each other. 2. Students are able to find limitations and contexts and show the tension or conflicts of interests among them. 3. Students are able to acknowledge objections and rival positions and provide convincing	and toward that topic. 3. Researcher conveys some aspects of speaking ability being assessed. 4. Students convey their stand and argument toward the topic given by providing evidence, showing assumption, and giving perspective and implication of the issue.

		replies to these.	
		4. Students are able to identify and evaluate important assumptions.	
		5. Students are able to provide new data or information for consideration.	
		6. Students are able to identify and thoroughly discuss implications, conclusions, and	

		consequences, considering all relevant assumptions, contexts, data, and evidences.	

Considering with the validation guide, the researcher consulted pre-test and post-test draft to expert validators to get feedback. After being given that feedback by the expert validators, the researcher revised them. Then the researcher wrote the final draft and administrated pre-test to experimental and control group.

1. Validity

Validity is defined as measuring what is purported to be measured. Brown (2004) adds the criteria of validity in which the assessment purpose has to be relevant, valid, and helpful in language testing. There are three kinds of validity namely:

a. Content Validity

Content validity is the suitability between curriculum objectives and assessed objectives. In other words, core competence and basic competence as stated in appendix 2 have to be foundation before designing a

test. The researcher would conduct consultation with the expert to validate the test that has been organized.

b. Construct Validity

Construct validity refers to how a test is really appropriate with the theory. It can be concluded that construct validity is the theory that was used to constructing the test which should be matched with what that will be tested. In this research, the researcher picks out the theory of speaking and critical thinking and the suitable materials to the students' need since it is beneficial for students to master speaking skill and elements inside it like Jaya (2017) stated that the mastery of speaking skills and the elements inside it including critical thinking skill. Hereby debate method exists as one of modern methods to teach speaking skill which is considered as students' active learning process in creating, constructing, and sharing knowledge.

c. Face Validity

Face validity refers to how the test measures what is intended to be measured. It could be overlooked that the test were suitable to students' level. To analyze the students' level and prepare the items, the researcher consulted to the advisor which is considered as an expert, the English teacher, and the material books of eleventh grade level.

F. Data Collection Method

In this part, the researcher explains the way to obtain the required data. The effectiveness of Modified Asian Parliamentary Debate can be measured

through pre-test and post-test as research instruments. The final score is calculated by summing each aspect's score.

1. **Pre-test**

Pre-test is aimed at knowing students' prior knowledge and skill before being taught by Modified Asian Parliamentary Debate. Pre-test of speaking has done on January 21st 2020 at XI MIA 1, pre-test of critical thinking has done on January 22nd 2020 at XI MIA 1 as experimental class and on January 23rd 2020 at XI IIS 1, it has been conducted for speaking pre-test, while on January 25th 2020 is for critical thinking of XI IIS 1 as control class. In speaking pre-test, students from both classes are asked to speak and deliver their argument based on the topic which researcher gives. While in critical thinking pre-test, students from both classes are asked to write their argumentative essay with the topic given by the researcher. Both speaking and critical thinking test are conducted in a half and an hour or 90 minutes for all students in the class. After finishing the test, the researcher calculated the score of pre-test to find out the students' result before treatment.

2. **Treatment**

Three-meeting treatment was administered to the students after pre-test. XI MIA 1 as experimental class was given treatment by teaching them about Modified Asian Parliamentary Debate.

In the first meeting, the researcher introduced Modified Asian Parliamentary Debate to the students. Then researcher gave the students

Modified Asian Parliamentary Debate sheet. To make students easy to understand, the Modified Asian Parliamentary Debate sheet includes some important terms in debate such as POI, rebuttal, motion, the names of speakers in affirmative and opposition team and also their roles in debate.

In the second and third meeting, the researcher conducted the treatment that was same as before, but with the different topic. Before teaching speaking and critical thinking, the researcher reviewed the students' understanding about debate that has been explained before. After that, the researcher guided students to practice Modified Asian Parliamentary Debate. In this case, the researcher gave the motion "This House Believes That Full Day School is Effective". After dividing the affirmative and opposition teams in each class, the researcher observed how they debate one by one with the motion given. The teaching scenario of the treatment can be simply viewed from the table below.

Table 3.8: Teaching Scenario of Treatment

1.	Researcher introduces the system and technical guidelines of doing Modified Asian Parliamentary Debate.
2.	Researcher gives debate sheets for the students.
3.	Researcher reviews the understanding of students about Modified Asian Parliamentary Debate.

4.	After making sure that students understand the debate, researcher divides them into some groups to conduct debate by themselves.
5.	After dividing the groups, the researcher gives the motion and also determines the position of the groups.
6.	The researcher gives 10 minutes for students to do case-building towards the motion.
7.	After the time for case-building is up and all students are ready, the researcher guides them to debate with the modified time.
8.	The researcher finally gives feedback towards the whole process of debating.

3. Post-test

Post-test was aimed at investigating and measuring the students' critical thinking and speaking ability development after being taught by Modified Asian Parliamentary Debate. Post-test of speaking has done on March 3rd 2020 and critical thinking on March 4th 2020 at XI MIA 1 as experimental class. While in control class that is XI IIS 1, post-test of speaking has done on March, 2nd 2020 and critical thinking on March, 5th 2020. Although the test item in post-test was different from the pre-test, but both of them had same indicators and difficulty level. This test is to measure

students' critical thinking and speaking ability. The form of post-test was also argumentative writing task for critical thinking test and speaking by each student for speaking test. They are given to get the final score and the students' different ability before and after they got treatment.

Table 3.9: The Schedule of the Research

No.	Group	Date	Activity
1.	Experimental Class (XI MIA 1)	Tuesday, January 21st 2020	Speaking pre-test
2.	Experimental Class (XI MIA 1)	Wednesday, January 22nd 2020	Critical thinking pre-test
3.	Control Class (XI IIS 1)	Thursday, January 23rd	Speaking pre-test
4.	Control Class (XI IIS 1)	Saturday, January 25th 2020	Critical thinking pre-test
5.	Experimental Class (XI MIA 1)	Tuesday, January 28th 2020	Treatment 1

6.	Experimental Class (XI MIA 1)	Wednesday, January 29th 2020	Treatment 2
7.	Control Class (XI IIS 1)	Thursday, January 30th 2020	Speaking activity 1
8.	Control Class (XI IIS 1)	Saturday, February 1st 2020	Speaking activity 2
9.	Control Class (XI IIS 1)	Monday, March 2nd 2020	Speaking post-test
10.	Experimental Class (XI MIA 1)	Tuesday, March 3rd 2020	Speaking post-test
11.	Experimental Class (XI MIA 1)	Wednesday, March 4th 2020	Critical thinking post-test
12.	Control Class (XI IIS 1)	Thursday, March 5th 2020	Critical thinking post-test

G. Data Analysis

In this study, the researcher used quantitative data analysis. The collected data were analyzed to know the effectiveness of Modified Asian Parliamentary Debate on students' critical thinking and speaking ability. The researcher divided the test result into two groups which were from the experimental group and control group result. The data were obtained from pre-test and post-test, both experimental and control class would be analyzed statistically using SPSS 24.0 for Windows. Besides, the results of pre-test and post-test would also be calculated by two people, namely rater 1 and rater 2. Rater 1 was the researcher herself, while rater 2 was the person whom researcher viewed as the one who was capable to assess speaking and critical thinking well. The results of the two raters such as in pre-test score were analyzed in SPSS to know their correlation. They can be viewed in four tables below.

Table 3.10: Correlation of Critical Thinking Score of XI MIA 1 between

Rater 1 and Rater 2

Correlations			
		R1	R2
Rater 1	Pearson Correlation	1	.679[**]
	Sig. (1-tailed)		.000

	N	30	30
Rater 2	Pearson Correlation	.679**	1
	Sig. (1-tailed)	.000	
	N	30	30
**. Correlation is significant at the 0.01 level (1-tailed).			

Table 3.11: Correlation of Speaking Ability Score of XI MIA 1 between Rater 1 and Rater 2

Correlations			
		Rat	rate
Rater 1	Pearson Correlation	1	.540**
	Sig. (1-tailed)		.001
	N	30	30
Rater 2	Pearson Correlation	.540**	1
	Sig. (1-tailed)	.001	

	N	30	30
**. Correlation is significant at the 0.01 level (1-tailed).			

Table 3.12: Correlation of Critical Thinking Score of XI IIS 1 between

Rater 1 and Rater 2

Correlations			
		R1	R2
Rater 1	Pearson Correlation	1	.877**
	Sig. (1-tailed)		.000
	N	30	30
Rater 2	Pearson Correlation	.877**	1
	Sig. (1-tailed)	.000	
	N	30	30
**. Correlation is significant at the 0.01 level (1-tailed).			

Table 3.13: Correlation of Speaking Ability Score of XI IIS 1 between Rater 1 and Rater 2

Correlations		R1	R2
Rater 1	Pearson Correlation	1	.718**
	Sig. (2-tailed)		.000
	N	30	30
Rater 2	Pearson Correlation	.718**	1
	Sig. (2-tailed)	.000	
	N	30	30
**. Correlation is significant at the 0.01 level (2-tailed).			

From four tables above, the values of Pearson Correlation are 0.679, 0.540, 0.877, and 0.718. They are near to 1. Hence, it can be concluded that the rater 1 and rater 2 have been correlated, so their scores are good enough to measure students' critical thinking and speaking ability in the research.

The next step is hypothesis testing. Bluman (1998) stated that hypothesis testing is the process of evaluating claims about population. Thus, hypothesis testing is functioned to know whether the null hypothesis (Ho) of the research is rejected or not.

1. **Stating the Hypothesis**

The hypotheses of this study are:

a.   Ha (alternative hypothesis): There is significant difference of using Modified Asian Parliamentary Debate strategy towards students' critical thinking and speaking ability.

b. H_0 (null hypothesis): There is no significant difference of using Modified Asian Parliamentary Debate strategy towards students' critical thinking and speaking ability.

2. **Finding the Critical Value**

In this step, the writer will determine the significance level or the tolerance of error at α =5%. It is because this study belong to language and education.

3. **Computing the Test Value**

In calculating the data in order to test the hypotheses, the writer uses SPSS 24.0 version.

4. **Drawing the Conclusion**

After calculating the data in SPSS, the writer starts to draw the conclusion. The null hypothesis (Ho) is rejected if the P-value is lower than α =5%. Meanwhile if the P-value higher than or equal to α =5%, null hypothesis is not rejected. Furthermore, the P-value is denoted in Significance (Sig.)