

## CHAPTER III

### RESEARCH METHODOLOGY

#### A. Research Design

This research is a kind of experimental research. The method used in this research was pre-experimental research. In this research, the writer used the design of the pre-test and post-test in one group. In conducting this research, one class had participated. The class got a pretest at the beginning, a treatment in the middle and posttest at the end of the research. The pretest and posttest were compared in order to determine the effect of the treatment. Gay says that this research is called One- Group Pretest – Posttest Design in which it involves a single group that is pretested, exposed to a treatment, and posttested. The success of the treatment is determined by comparing pretest and posttest scores<sup>33</sup>

**TABLE III. 1**  
**The Research Design**



#### B. The Location and Time of the research

This research was conducted at SMPS Sei Putih Kampar Timur District of Kampar Regency from September to Oktober 2013.

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<sup>33</sup> L.R Gay and Peter Arisian. *Educational Research Competencies for Analysis and Application 6<sup>th</sup> Edition*. (New Jersey : Prentice-Hall, Inc, 2000),p 388

### C. The Object of the Research

The object of this research was the effect of using Twenty Questions Game Technique toward Students' speaking ability.

### D. The Subject of the Research

The subject of the research was the second grade students at SMPS Sei Putih Kampar Timur District of Kampar Regency

### E. The Population and Sample

In conducting the research, the writer took the second grade students of SMPS Sei Putih Kampar Timur District of Kampar Regency which consisted of only one class as the population. Population of this research was whole the students of the second grade at SMPS Sei Putih Kampar Timur District of Kampar Regency. The number of the population can be seen in the following table:

**TABLE III. 2**  
**Population and Sample**

Class	Population		
	VIII	Female	Male
Total	14	3	17

The writer used total sampling as the technique sampling of the research. The writer took the whole of the available population as the sample of the research because the number of the population was not so large.<sup>34</sup>

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<sup>34</sup>Sugiyono, *Statistika untuk Penelitian*, Bandung: Alfabeta, 2010, p.68.

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

In order to measure students' ability in speaking, the writer used oral test. The oral presentation test was given twice, they are:

### 1. Pre- Test

Pre-Test was used to collect the data of the students' speaking ability in descriptive text before applying Twenty Questions Game Technique.

### 2. Post-Test

Post-Test was used to collect the data of students' speaking ability in descriptive text after applying Twenty Questions Game Technique.

## **G. The Procedures of the Research**

In conducting this experimental research, the writer carried out some research procedures. The research was carried out for ten meetings. These research procedures are as follows:

### 1. Conducting Pre-test

The pre-test was carried out to know the students' speaking ability in descriptive text. In the pre-test section, the researcher spreads some picture of animal, then let students choose one of these pictures. Afterward, the researcher asked the students to describe the picture chosen in 2 minutes. When students presented their presentation of describing animal, researcher recorded students' performance by using audio visual recorder.

### 2. Conducting Treatment

The treatment was given based on the Twenty Questions Game Technique procedures.

### 3. Conducting Post-test

After conducting the treatment for eight meetings, the writer gave the post-test. The post-test was conducted in order to know the development of students' speaking ability after practicing Twenty Questions Game Technique. In this section, the researcher gave three topics about describing people; One of the family members, one of the friends, and one of the favorite artists. then let students choose one of these topics. Afterward, the researcher asked the students to describe the topic chosen in 2 minutes. When students presented their presentation of describing people, researcher recorded students' performance by using audio visual recorder.

## H. The Validity and the Reliability of the Test

### 1. The Validity of the Test

According to Hughes,<sup>35</sup> a test is said to be valid if it measures accurately what it is intended to measure. According to Gay,<sup>36</sup> validity is the appropriateness of the interpretation made from the tests score. Furthermore, Gay says that there are three kinds of validity. They are content validity, criterion-related validity, and construct validity. All of them have different use and function.

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<sup>35</sup>Arthur Hughes, *Testing for Language Teachers*, Cambridge University Press, 1989, p.22.

<sup>36</sup>L.R. Gay and Peter Airasian, *Educational Research Competencies for Analysis and Application*. 6<sup>th</sup> Ed. United State of America: Prentice-Hall Inc, 2000, p. 161

Content Validity is used to compare content of the test to the domain being measured. Gay also states that there is no formula used in this kind of validity and there is no way how to express it quantitatively.<sup>37</sup> Content validity just focused on how well the items represent the intended area. In addition, Hadari Nawawi states that this kind of validity is also said as a curricular validity.<sup>38</sup> It means that the content of the curriculum of a course that must be mastered by the students become the standard in determining the validity. To determine the validity used is referring to the material given to the students based on the curriculum.

Based on the explanation above, the writer used the content validity to measure whether the test was valid or not in this research. In other words, the tests given to the students were based on the material that they had learned.

## **2. The Reliability of the Test**

According to Gay,<sup>39</sup> reliability is the degree in which the test consistently measures whatever it is measuring. Furthermore he says that to know the reliability of the test such as essay tests, short-answer tests, performance and product tests, and projective test, we are concerned with interjudge or intrajudge reliability. The interjudge reliability is also said as interscorer, interrater, or interobserver reliability.

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<sup>37</sup>*Ibid.*, p. 164

<sup>38</sup>Hadari Nawawi and M. Martini Hadari, *Instrumen Penelitian Bidang Sosial*, Pontianak: Gajah Mada University Press. 2006. p.181-182.

<sup>39</sup>L. R Gay and Peter Airasian, *Op.Cit.*, p.175.

In this research, the writer used interjudge (interrater) reliability. It means that the score of the test was evaluated by more than one person. In this research, the students' speaking scores were evaluated by two raters.

### I. The Technique of Analyzing Data

In this research, the data were analyzed by using statistical method. The writer used students' pre-test and post-test as the data of the research. Firstly, the writer analyzed students' speaking score from raters. The writer stated the following form to assess the students' speaking ability:

**Table III.3**  
**Assessment Aspects of Speaking Monologue**  
**Descriptive Text**

No	Aspect Assessed	Score					
		1	2	3	4	5	6
1	Accent					Formative speaker	
2	Grammar						
3	Vocabulary						
4	Fluency						
5	Comprehension						
Total							
Maximum Score		20					

Explanation of score:

- 1= incompetence
- 2= competence enough
- 3= competence
- 4= very competence

$$\text{Final score} = \frac{\text{Total score}}{\text{Maximum Score}} \times 100$$

After getting the score, the writer analyzed the data by using t-test in order to know whether or not the result of the research was statistically significant<sup>40</sup>.

The data were analyzed by using the formula as follows:

$$t_o = \frac{\frac{\sum D}{N}}{\frac{SD_D}{\sqrt{N - 1}}}$$

Where:

$t_o$  : the t-value or  $t_{\text{observation}}$

$D$  : the sum of the difference between Variables

$N$  : The number of sample

$SD_D$ : the standard Deviation of the  $D$

After computing t-test, it is necessary to obtain the degree of freedom that is used to determine whether the t-score is significant or not. The t-obtained value is consulted with the value of t-table by using degree of freedom. The formula of degree of freedom is as follows:<sup>41</sup>

$$df = N - 1$$

If the writer has consulted the t-obtained value with t-table by using degree of freedom, the writer can conclude that if  $t_o < t\text{-table}$ ,  $H_o$  is accepted.

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<sup>40</sup>Hartono, *Statistik untuk Penelitian*, Yogyakarta: PustakaPelajar, 2009, p. 181

<sup>41</sup>*Ibid.*, p. 184.

It means that there is no effect of using twenty questions game technique toward students' speaking ability. If  $t_o > t\text{-table}$ ,  $H_a$  is accepted. It means that there is significant effect of using twenty questions game technique toward students' speaking ability.