## CHAPTER III RESEARCH METHODOLOGY

## A. Research Design

The design of this research was an experimental research. According to Gay, experimental research is the only type of the research that can test hypothesis to establish cause and effects relationship (L.R Gay \& Airasian, 2000: 367). Creswell stated that there are three kinds of experimental design; true, quasi, and pre-experimental research. This research is quasi-experimental research. Quasi-experiments include assignment, but not random assignment of participants to groups. This is because the experimenter cannot artificially create groups for the experiment (Creswell, 2012:309). The writer had applyied the pre-test and post-test design approach to this research. The writer assign intact groups the experimental and control treatments, administers a pre-test to both groups, and conducts experimental treatments activities with the experimental group only, finally administers a post-test to assess the differences between the two groups (experimental and control).

There were two variables used in this research. The first was Cartoon Video (X), and the second was students' speaking ability in retelling story (Y). Louis Cohen, et.al stated that an experimental involves making a change in the value of one variable-called the independent variable and observing the effect that changes one another variable- called the dependent variable.

## Table III. 1 Variables of the Research

| Class | Pre-test | Treatment | Post - test |
| :---: | :---: | :---: | :---: |
| A | T1 | $\checkmark$ | T2 |
| B | T1 | X | T 2 |

Note: A : Experimental Group
B : Control Group
T1 : Pre- test to experimental and control group
T2 : Post- test to experimental and control group
$\sqrt{ } \quad$ : Receiving particular treatment
X : Without particular treatment
Furthermore, the writer wanted to investigate and find out the effect between Cartoon Video and students' speaking ability in retelling story of the second grade students at the State Islamic Junior High School Naumbai Kampar Regency.

## B. Time and Location of the Research

This research was conducted from January to February at the State Islamic Junior High School Naumbai Kampar Regency. It was located on Naumbai village, Air Tiris, Kampar regency.

## C. The Subject and the object of the Research

The subject of the research was second grade students at the State Islamic Junior High School Naumbai Kampar Regency. The object of the research was the effect of using Cartoon Video on students' speaking ability in retelling story.

## D. The Population and the Sample of the Research

Gay (1987:102) has stated that population is the group of interest researcher; the group to which she or he like the results of the study to be generalized able.

The population of this research was the second grade students of the State Islamic Junior High School Naumbai Kampar Regency. They consisted of four classes ( 84 students). The specification of the population can be seen on the table below:

Table III. 2
The Population of the Research

| No. | Classes | Male | Female | Number of Students |
| :---: | :---: | :---: | :---: | :---: |
| 1. | 8 A | 11 | 10 | 21 students |
| 2. | 8 B | 10 | 11 | 21 students |
| 3. | 8 C | 11 | 10 | 21 students |
| 4. | 8 D | 12 | 10 | 22 students |
| TOTAL |  | $\mathbf{4 3}$ | $\mathbf{4 1}$ | $\mathbf{8 5}$ students |

Considering the population this research was bigger those, the writer took the sample of population of the research in this research. The writer took two of four classes as the sample of the research. The strategy in taking sample used cluster random sampling. In this research, the researcher used cluster sampling as the technique to choose the sample of population. According to Gay (2000:135), "in cluster sampling, intact groups, not individuals, are randomly selected." It means the sample of population is selected randomly.

The population was large enough to be all taken as sample of the research. Based on the design of the research, the researcher took two classes as the sample of the research. The first class was labeled as experimental class, (8C) treated by using Cartoon Video and the second was labeled as control group (8B), treated without using Cartoon Video. These classes were decided by using cluster-random sampling. The classes consist of 42 students in which
class 8 C consisted of 21 students and class 8 B consisted of 21 students. The spesification of the sample of the research can be seen on the table below:

Table III. 3
The sample of the reaserch

| No | Classes | Male | Female | Number of Students |
| :---: | :---: | :---: | :---: | :---: |
| 1 | 8 B | 10 | 11 | 21 students |
| 2 | 8 C | 11 | 10 | 21 students |
| Total |  |  |  | 42 students |

## E. The Technique of Collecting Data

To obtain the data needed to support this research, the writer used two kind of data collecting technique, and there were observation and oral test (oral presentation). The test was done twice, before and after giving the treatment intended to obtain students' speaking ability in retelling story of the second grade students at the State Islamic Junior High School Naumbai Kampar Regency.

1. Observation List

The function of observation list was to know wether the media was really applied or not by the researcher. The obserrvation list consisted of the steps of teaching with Cartoon Video and it would be filled by the English teacher and observer during the writer gave the treatment in experimental class, the observation list can be seen in the table bellow:

## Table III. 4 Observation List

| No | Options | The Dimension <br> of Contrast |  |
| :---: | :--- | :--- | :--- |
|  | Yes | No |  |
| $\mathbf{1}$ | The teacher sets the class like 'U' latter and devides <br> the students in three groups. |  |  |
| $\mathbf{2}$ | The teacher showed the video full without pause the <br> video and the students watch the video. |  |  |
| $\mathbf{3}$ | The teacher plays and pauses the video in second <br> presentation of the video. |  |  |
| $\mathbf{4}$ | The teacher plays and pauses the video in partly <br> sentences, and treats students to say and repeat after <br> the teacher of the sentences in firstly together three <br> times; in secondly with group three times; and the third <br> in individually. |  |  |
| $\mathbf{5}$ | The teacher asks one student of each group to retell <br> what the students have said in front of the class as a <br> model. |  |  |

2. Oral Presentation

Oral presentation test was used to collect data about students' speaking ability in retelling story in narrative text.
a. Pretest

The pretest was used to collect data about students' speaking ability in retelling story (narrative text) before applying Cartoon video. In pre-test section, the writer spreaded a text to both of experimental and control classes. Afterward, the writer asked the students to retell in approximately 2-3 minutes. While students presented their presentation or narrative text, the writer recorded students' performance by using audio recorder. These data of audio recorder was analysed by two raters.

## b. Posttest

Post-test was used to collect data about students' speaking ability in retelling story in retelling story (narrative text) after being taught by using Cartoon Video (Experimental class), and after being taugh without using Cartoon Video (Control Class). In this section, the writer showed a video to Experimental class and speaded a text in Control class. Afterward, the writer asked the students to retell the story in approximately 2-3 minutes. While students presented their presentation of retelling story, the writer recorded students' performance by using audio recorder. These data audio of students' post-tes of both experimental and control classes, then were analyzed and compared.

According to Hughes (2003:131-132) there are some components that should be considered in giving students' score; they are accent, grammatical, vocabulary, fluency, and comprehension. They have typical scale where each component has asset of qualities/level to be rated and a series of possible ranting. The scoring process was done by two raters by using the indicators of speaking ability as mentioned below:

Table III. 5
Accent

| Score | Requirement |
| :---: | :--- |
| 1 | Pronunciation frequently unintelligible |
| 2 | Frequent gross error and a very heavy accent make understanding <br> difficult, require frequently repetition |
| 3 | "foreign second" requires concentrated listening, and <br> mispronunciations lead to occasional misunderstanding and <br> apparent errors in grammar of vocabulary |
| 4 | Marked "foreign accent" and occasional mispronunciation which <br> do not interfere with understanding |
| 5 | No conspicuous mispronunciations, but would not be taken for a <br> native speaker. |
| 6 | Native pronunciation with no trace of "foreign accent." |

## Table III. 6

## Grammar

| Score | Requirement |
| :---: | :--- |
| 1 | Grammar almost entirely inaccurate except in stock phrases |
| 2 | Constant errors showing control of very view major patterns and <br> frequently preventing communication |
| 3 | Frequent errors showing some major pattern uncontrolled and causing <br> occasional irritation and misunderstanding |
| 4 | Occasional errors showing imperfect control of some pattern but no <br> weaknesses that causes misunderstanding |
| 5 | Few errors, with no patterns of failure. |
| 6 | No more than two errors during the interview. |

Table III. 7
Vocabulary

## Vocabulary

| Score | Requirement |
| :---: | :--- |
| 1 | Vocabulary inadequate for even the simplest conversation |
| 2 | Vocabulary limited to basic personal and survival areas (time, food, <br> transportation, family, etc.) |
| 3 | Choice of words sometimes inaccurate, limitations of vocabulary <br> prevent discussion of some common professional and social topics. |
| 4 | Professional vocabulary adequate to discuss special interest, general <br> vocabulary permits discussion of any non-technical subject with some <br> circumlocutions. |
| 5 | Professional vocabulary broad and precise; general vocabulary <br> adequate to cope with complex practical problems andvaried social <br> situations. |
| 6 | Vocabulary apparently as accurate and extensive as that of an <br> educated native speaker. |

## Table III. 8 Fluency

| Score | Requirement |
| :---: | :--- |
| 1 | Speech is no halting and fragmentary that conversation is virtually <br> impossible |
| 2 | Speech is very slow and uneven except for short or routine sentences |
| 3 | Speech is frequently hesitant and jerky; sentences may be left <br> uncompleted |
| 4 | Speech is occasionally hesitant, with some unevenness caused by <br> rephrasing and grouping for words |
| 5 | Speech is effortless and smooth, but perceptively non-native in speed <br> and evenness |
| 6 | Speech on all professional and general topics as effortless and smooth <br> as a native speaker's |

## Table III. 9 Comprehension

| Score | Requirement |
| :---: | :--- |
| 1 | Understand too little for the simplest type of conversation |
| 2 | Understands only slow, very simple speech on common social and <br> touristic topics; require constant repetition and rephrasing |
| 3 | Understand careful, somewhat simplified speech when engaged in a <br> dialogue, but may require considerable repetition and rephrasing |
| 4 | Understand quite well normal educated speech when engaged in a <br> dialogue, but occasional repetition or rephrasing |
| 5 | Understands everything in normal educated conversation except for <br> very colloquial or low-frequency items, or exceptionally rapid or <br> slurred speech. |
| 6 | Understands everything in both formal and colloquial speech to be <br> expected of an educated native speaker. |

The result of speaking was scored by using five components and each component had score or level. Each component had 20 as the highest score. The total of all components is 100 . The specification of the test is as follows:

Table III. 10
The Specification of the Test

| No | Speaking Skill | The Highest Score |
| :---: | :--- | :---: |
| 1 | Accent | 20 |
| 2 | Grammatical | 20 |
| 3 | Vocabulary | 20 |
| 4 | Fluency | 20 |
| 5 | Comprehension | 20 |
| TOTAL |  | $\mathbf{1 0 0}$ |

## F. The Validity and Reliability of Test

The test used for testing students' speaking ability had to have reliability and validity. The test is valid if it measures accurately what it is intended to measure. According to Gay (2000:163-167) states that there are three types of validity. They are content validity, criterion-related validity, and construct validity. In this research, the writer used content validity to know the validity of speaking skill test. According to Brown (2003:22) states that
content validity is partly a matter of determining if the content that the instruments contains is an adequate sample of the domain of content it is supposed to represent. Thus, the test was given based on the material studied by the students. The material of the test was taken from the textbook and others resources used by the second grade students of the State Islamic Junior High School Naumbai Kampar Regency.

The validity and reliability is related. It is possible for a test to be reliable without being valid for a specific purpose, but it is impossible a test to be valid without first being reliable. According to Hughes (1989: 20), a reliable test is consistent and dependable. If the same test is given to the same student or matched students on two different occasions, the test should yield similar results. There are five types of reliability: stability, equivalence, equivalence and reliability, internal consistency, and rater agreement. In this research, to know the reliability of the test the writer used the rater agreement type concerned with inter-rater reliability, because the writer has two raters to score the students' speaking ability.

The following table describes the correlation between the first raters' scores and the second raters' scores by using SPSS 16 :

Table III. 11
Correlations

|  |  | Rater1 | Rater2 |
| :---: | :---: | :---: | :---: |
| Rater1 | Pearson Correlation | 1 | .801 |
|  | Sig. (2-tailed) |  | .000 |
| N |  | 21 |  |
|  | Pearson Correlation | .801 | 1 |
|  | Sig. (2-tailed) | N | .000 |
|  |  | 21 | 21 |

**. Correlation is significant at the 0.01 level (2-tailed).
It was necessary to find out the df (degree of freedom) as follow:

$$
\mathrm{df}=\mathrm{N}-\mathrm{Nr}
$$

Where:
df = degree of freedom
$\mathrm{N}=$ Number of freedom
$\mathrm{Nr}=$ number of correlated variable

$$
\mathrm{df}=21-2=19
$$

Degree of Freedom (df) would be correlated at level 5\% and 1\%. At level $5 \% \mathrm{t}_{\text {table }}$ was 0.374 . while, at level $1 \% \mathrm{t}_{\text {table }}$ was 0.478 . Thus, the $\mathrm{r}_{\text {obtained }}$ (0.801) was higher than $\mathrm{r}_{\text {table }}$ at level $5 \%$ and $1 \%$. It can be read $0.374<0.801>0.487$. So, the writer concluded that there was a significant correlation between scores given by rater 1 and scores given by rater 2 . In other words the oral test was reliable. Then, the writer calculated by using Spearman-Brown prophecy formula in order to know the classification of reliability. The formula could be seen as follow:

$$
\mathrm{r}_{\mathrm{tt}}=\frac{n r_{A, B}}{1+(n-1) r_{A, B}}
$$

Where:
$\mathrm{r}_{\mathrm{tt}}=$ Inter-rater reliability
$\mathrm{n}=$ The number of raters whose combined estimate the final mark fortheexamines
$\mathrm{r}_{\mathrm{AB}}=$ The correlation between raters,or the average correlationamongall raters if there are more than two
while, the calculation of it was as follow:

$$
\begin{aligned}
\mathrm{r}_{\mathrm{tt}} & =\frac{n r_{A, B}}{1+(n-1) r_{A, B}} \\
\mathrm{r}_{\mathrm{tt}} & =\frac{2 x(0.801)}{1+(2-1) \times 0.801} \\
\mathrm{r}_{\mathrm{tt}} & =\frac{1.602}{1.801} \\
\mathrm{r}_{\mathrm{tt}} & =0.88
\end{aligned}
$$

The writer used the categories of reliability that could be seen in the following table, (Zelly, 2011: 35).

Table III. 12
The Categories of Reliability

| No | Reliability | Level of reliability |
| :---: | :---: | :---: |
| 1 | $0.0-0.20$ | Low |
| 2 | $0.21-0.40$ | Sufficient |
| 3 | $0.41-0.70$ | High |
| 4 | $0.71-1.0$ | Very High |

From the result of calculation above, the inter-rater reliability in this research was 0.88 . Thus, it was categorized into very high level.

## G. The Technique of Data Analysis

## 1. Normality and Homogeneity of the Test

Before analyzing the data by using t -test formula, the writer had to find out the normality test of the data. The normality test of the data was analyzed by using Kolmogorov-Smirnov technique with SPSS 16 version.

## Analysis:

Ho: Data is normally distributed
Ha: Data is abnormally distributed
If probability (sig) > 0.05, Ho is accepted
If probability (sig) < 0.05, Ho is rejected
Then, the writer used also had to find out the homogeneity of the test. To analyze the homogeneity was by comparing sig. In based on trimmed mean with 0.05 .

Analysis:
Sig > 0.05 the data is homogenous
Sig < 0.05 the data is not homogenous

## 2. Analysis Data of Independent Sample T-test

In analyzing the data, the writer used the score of pre-test and posttest of the students from both of experimental class and control class. In order to find out whether there is or nor a significant effect of using Cartoon Video on the students' speaking ability in retelling story, the data were analyzed by using independent t -test. In taking the conclusion, the writer concluded by comparing t-obtained with probability value.

Analysis:
Ha : t-obtained > probability value
Ho : t-obtained < probability value

- $H_{O}$ is accepted if $t_{o}<$ probability value or there is no significant effect of using cartoon video on the speaking ability in retelling story of the second grade students at The State Islamic Junior High School Naumbai Kampar Regency.
- $H_{a}$ is accepted if $t_{0}>$ probability value or there is a significant effect of cartoon video on the speaking ability in retelling story of the second grade students at The State Islamic Junior High School Naumbai Kampar Regency.

To identify the level of the significant effect of using cartoon on speaking ability in retelling story of the Second Grade Students at the State Islamic Junior High School Naumbai Kampar Regency, it was be calculated by using eta squared formula:

Eta Squared $=\frac{\mathrm{t}^{2}}{\mathrm{t}^{2}+(\mathrm{n} 1+\mathrm{n} 2-2)}$

Where: $\quad \mathrm{t}$ : value of the table
N1 : number of students of first group
N2 : number of students of second group

