

CHAPTER III

RESEARCH METHODOLOGY

This chapter consists of research design, research method, population and sample, instruments, data collection techniques and analysis.

A. Research Method

In carrying out the research, the researcher used quantitative method. According to Cresswell (2014), quantitative research is an approach for testing objective theories by examining the relationship among variabel. It can be concluded that, quantitative research is a method of constructs variables that make use of statistical examines to find out the findings the result.

B. Research Design

Research design is the arrangement of conditions for collection and analysis of data in a manner that aims to combine relevance to research purpose Tavakoli (2012). There are three experimental research design : Pre-experimental design, Quasi-experimental design and True-experimental design (Cresswell, 2014). Related to this research the researcher used a Quasi-experimetal design with two groups. There are group A for experimental class and group B for control class are selected without random assigment. Both groups take a pre-test and post-test. The application of the treatment of communicative learning especially Audio Lingual method given to the group A and there is discovery learning for group B.

Finally, the result can be recognized by compared the differences between experiment class and control class.

C. Population and Sample

1. Population

A population is defined as all members of any well-defined class of people, events, or objects. It means that population is large group to be the object of the research (Ary, 2010). Based on the definition, the population of this research are the students of the seventh grade at SMPN 1 Cipanas.

2. Sample

The sample of this research are two classes. According to Ary (2010) A sample is a portion of a population. It means sample is small group from population. Based on the definition above the sample of the research, student in the population was seventh grade at SMPN 1 Cipanas with eleven class.

The reseacher choose VII G as the experiment group consisted of 31 students, and VII F as the control group consisted of 31 students. As the experiment class the students were asked to describe subject using Communicative Approach especially Audio Lingual. While the control class using Scientific Approach

D. Instruments

To get the data, the researcher used some instruments. According to Wilkinson & Birmingham (2003), research instruments are simply devices for obtaining information relevant to your research project, and there are many alternatives from which to choose. It means an instrument is tool for collecting data.

1. Test

Test is valid to the extent that its source permit one to draw appropriate, meaningful, and useful inferences and it is reliable to the extent that whatever it measures, it measure consistently (Crowl, 1996). It means test in this research is writing test, the test used to answer the first research question. The test was done by ordering the students to make descriptive text.

a. Pre-test

In the first meeting the researcher used pre-test to know students' speaking skill. In the pre-test, two classes was asked to describe thing around this school (classroom, sport field, library, etc), your favorite animal, or pet based on your knowledge.

Table 3.1
Test of Pretest

Pre test for Experimental and Control Class

1. Describe one thing in front of the class. It can be thing around this school (classroom, sport field, library, etc) your favorite animal, or pet based on your knowledge.

2. You have 2 minutes to describe it in front of class.
3. Scoring will be based on grammar, vocabulary, comprehension, fluency, pronunciation, and the task.

b. Post-test

After giving the treatment, the researcher give the post-test to the experimental class and also to the control class. The tes was similar with the pre-test. The post-test will be done after the treatment given to the students to practice describing subject using Scientific Approach for control class and Audio Lingual for experimental class.

Table 3.2
Test of Post-test

2. Describe one people based on his/her appearances and chararacteristics.
3. You have 2 minutes to describe it in front of the class.
4. Scoring will be based on grammar, vocabulary, comprehension, fluency, pronunciation, and the task.

3. Observation

Observation as a research method tells us that it is research characterised by a prolonged period of intense social interaction between the researcher and the subjects, in the milieu of the latter, during which time

data, in the form of field notes, are unobtrusively and systematically collected (Bogdan 1972: 3). To get the information about students' writing skill in descriptive text, the researcher conduct observation. Observation used to answer the second and third research question.

Table 3.3
Observation Sheet for Teacher

Observation Checklist on the Students' Activities				
School	:			
Class	:			
Date	:			
Time	:			
Please give check (✓) on the column 1,2,3, or 4 based on the students' activity in the class. Give comment if needed.				
No.	Statements	Implementation		Comment
		YES	NO	
1.	The students are ready to follow the lesson.			
2.	The students respond to the teacher's greeting.			
3.	The students pay attention to the teacher.			
4.	The students follow the teacher's instruction.			
5.	The students are active in the learning activities.			
6.	The students ask questions related to the material.			
7.	The students are excited about the lesson.			
8.	The students can answer the teacher's question in English.			
9.	The students have enthusiasm or motivation during the teaching process.			

5. Interview

Interviews involve a set of assumptions and understandings about the situation which are not normally associated with a casual conversation (Denscombe 1998: 109). In this research, the researcher used interview to support observation result in answering the second and third research question. The technique of interview that performed by the researcher was choosing three students from experimental group, three students from control group, and english teacher.

Table 3.4
Interview guidelines for interviewing the student before the implementation

No	Pertanyaan	Pilihan				
		1	2	3	4	5
		STS	TS	KK	S	SS
1	Apakah anda menyukai peajaran bahasa Inggris ?					
2	Apakah anda menyukai 4 keterampilan (skill) bahasa Inggris; Listening, Speaking, Reading, dan Writing yang diajarkan ?					
3	Apakah anda senang terhadap pelajaran speaking / berbicara dalam bahasa Inggris pada pembeajaran recount text ?					
4	Apakah speaking / berbicara merupakan salah satu keterampilan (skill) yang anda anggap sulit ?					
5	Apakah anda memahani materi pelajaran recount text dalam skill speaking dengan cara pengajaran yang selama ini dilakukan oleh guru anda ?					
6	Apakah anda merasa tertarik pada saat guru memberitahukan aktifitas yang akan dilakukan ?					
7	Dengan bimbingan dan arahan guru, apakah anda merasa termotivasi untuk bertanya tentang hal yang belum dimengeri?					
8	Apakah anda merasa kesulitan saat kesulitan saat mengucapkan kata/kalimat dalam bahasa Inggris ?					
9	Apakah anda merasa kesulitan saat menggali informasi dari sebuah teks ?					
10	Apakah anda kesulitan saat mengerjakan soal tentang recount text?					
11	Apakah anda menyukai pembelajaran speaking dengan teknik yang telah dilakukan/ diajarkan oleh guru anda ?					
12	Apakah belajar speaking/ berbicara dengan menggunakan teknik seperti ini membantu anda dalam merangkum/ menceritakan kembali isi bacaan?					

13	Apakah belajar speaking/ berbicara dengan menggunakan teknik seperti ini membantu anda dalam mengucapkan kalimat dalam bahasa Inggris ?					
14	Dengan menggunakan teknik seperti ini, apakah anda merasa termotivasi untuk terus meningkatkan kemampuan berbicara bahasa Inggris anda ?					
15	Menurut anda apakah cara guru mengajar pada pelajaran berbicara/speaking dalam bahasa Inggris dengan menggunakan teknik pembelajaran seperti ini menyenangkan?					

Table 3.5

Interview guidelines for interviewing the student after the implementation for control class

Student's interview guidelines

1. Bagaimana pendapat anda mengenai pelajaran *speaking* ?
2. Pernahkah anda mendapatkan pelajaran mengenai *speaking* sebelumnya ?
3. Bagaimana menurut anda mengenai metode *Audio Lingual* dalam pembelajaran *speaking*?
4. Manakah yang lebih anda sukai, belajar speaking menggunakan metode *Audio Lingual* atau tidak menggunakan metode apapun?
5. Apakah anda tertarik dan senang saat mendapatkan materi tentang *descriptive text*?
6. Menurut anda, metode *Audio Lingual* dalam pembelajaran *speaking* itu mudah dipahami atau tidak ?
7. Menurut anda, apakah metode *Audio Lingual* tersebut dapat meningkatkan kemampuan belajar siswa khususnya dalam speaking ?
8. Setelah mendapatkan pelajaran *speaking* dengan metode *Audio Lingual*, apakah yang anda rasakan ? belajar bahasa Inggris di kelas menjadi lebih menyenangkan atau tidak ?
9. Selama mendapatkan pelajaran *speaking* dengan metode *Audio Lingual*, apakah ada kesulitan yang kamu hadapi ?
10. Kesan apa yang kamu rasakan mengenai metode *Audio Lingual* dalam pembelajaran *speaking* ?

F. Data Collection Techniques and Analysis

1. Data Collection

In collecting the data and answer the research questions in this research, the researcher used test, pre-test and post-test. Pre-test was given to the subjects before doing teaching and learning process. Meanwhile, post-test was given after applying teaching and learning process.

a. Time and Allocation

After doing the research for more less two months, the researcher started from March to April 2019 at seven grade students of Junior High School in Cipanas.

b. Scoring System

O'Malley and Pierce (1996) state that speaking assessment can be used most effectively with instruction when the criteria for scoring spoken products are clear to the students and when the students see an obvious relationship between what they have spoken and the scores they have received.

The following is rubric on assessing the students' speaking.

It focus on the students' ability in speaking descriptive text.

Criteria	Score	Performance Description
Grammar	1	Errors in grammar are frequent, but speaker can be understood' by a native speaker' used to dealing with foreigners attempting to speak his language
	2	Can usually handle elementary constructions quite accurately but does not have thorough confident control of grammar
	3	Control of grammar is good. Able to speak the language with sufficient structural accuracy to

		participate effectively in most formal and informal conversations on practical, social, and professional topics.
	4	Able to use the language accurately on all levels normally pertinent to professional needs. Errors in grammar are quite rare
	5	Equivalent to that of an educated native speaker.
Vocabulary	1	Speaking vocabulary inadequate to express anything but the most elementary needs.
	2	Has speaking vocabulary sufficient to express himself simply with some circumlocutions
	3	Able to speak the language with sufficient vocabulary to participate effectively in most formal and informal conversations on practical, social, and professional topics. Vocabulary is broad enough that he rarely has to grope for a word.
	4	Can understand and participate in any conversation within the range of his experience with a high degree of precision of vocabulary.
	5	Speech on all levels is fully accepted by educated native speakers in all its features including breadth of vocabulary and idioms, colloquialisms, and pertinent cultural references.
Comprehension	1	Within the scope of his very limited language experience, can understand simple questions and statements if delivered with slowed speech, repetition, or paraphrase.
	2	Can get the gist of most conversations of non-technical subjects (Le., topics that require no specialized knowledge).
	3	Comprehension is quite complete at a normal rate of speech.
	4	Can understand any conversation within the range of his experience.
	5	Equivalent to that of an educated native speaker.
Fluency	1	(No specific fluency description. Refer to other four language areas for implied level of fluency.)
	2	Can handle with confidence but not with facility most social situations, including introductions and casual conversations about current events, as well as work, family, and autobiographical information.

	3	Can discuss particular interests of competence with reasonable ease. Rarely has to grope for words.
	4	Able to use the language fluently -on-all-level-normal hypertinent-to professional needs. Can participate in any conversation within the range of this experience -with a high degree of fluency.
	5	Has complete fluency in the language such that his speech is fully accepted by educated native speakers.
Pronunciation	1	Errors in pronunciation are frequent' but can be understood by a native speaker used to dealing with foreigners attempting to speak his language.
	2	Accent is intelligible though often quite faulty.
	3	Errors never interfere with understanding and rarely disturb the native speaker Accent may be obviously foreign.
	4	Errors in pronunciation are quite rare.

Source: Brown, 2004 "Language assessment principles and classroom

From the analytic scoring rubric for writing, each unit is scored from 1 to 4 and weighted based on its worth to the final draft of the descriptive text. The content is weighted 30% since it can be more worth that the other aspects. The organization and the grammar are weighted 20% respectively as they are more worth than vocabulary and mechanic. As there is a little anxiety around the last two aspects, vocabulary and mechanic, the small weighting is attached to them. They are weighted 15% respectively.

2. Research Procedure

First the researcher preparation and met the headmaster and english teacher of SMPN 1 Cipanas to ask his permission to conduct the research in the school. After that, researcher made a list of activities to do and then the researcher observation the school and students when learning english subject. The researcher ask six students and english

teacher to be interview. The six students that selected as different classes. Three students are experimental class and three students are control group. The researcher read a syllabus and created a lesson plan with standar competence and basic competence of descriptive text. The researcher created pre-test and post-test as the research instruments. Implemantation and Giving pre-test to the students before treatment. Doing treatment, the researcher begin with greeting and introduce, check attendance list, explain (speaking, descriptive text, communicative approach , and student team achievement division), practice student in group (Audio Lingual), and discuss descriptive text). Giving post-test to the student after treatment. Calcuting and analyzing the test score. Finding and discussing the result of the research. Evaluate and consider the result gained from observation, interview and test, so it can be better teaching and learning process to make conclusion and suggestion.

3. Data Analysis

This research the researcher used IBM SPSS (Statistic Products and Service Solutions) version 22 formula to calculate and analyze the data. George & Mallery (2016) states, “SPSS for window package which is specifically design to analysis quantitative data from social sciences research”.

To analyze the data using SPSS, the researcher calculated :

a. Test of Normality

Normality test was to determine whether the data from population normally or not. This test was purpose for ensuring the distribution of data wich were accomplished from the population had normal distribution or not. Normality test used is Kolmogorov-Sminor test. The researcher tested normality of test by using SPSS 18. The criteria of the testing follow.

If the value $(p) > \text{significant } (\alpha = 0,05)$ it means that the sample from the population H_0 was accepted and H_0 was rejected (normal distribution).

If the value $(p) < \text{significant } (\alpha = 0,05)$ it means H_0 was rejected and H_0 was accepted (not normal distribution).

b. Homogeneity Test

Homogeneity test was done to know the variance in population of research homogeny or not. Homogeneity test was to measure the data of the population homogeneity or not. The researcher use SPSS 24 in this research. the criteria of the testing follow:

- 1) If the value $(p) > \text{significant } (\alpha = 0,05)$, H_0 is accepted, it means that sample has homogenous variant wich means the data was valid
- 2) If the value $(p) < \text{significant } (\alpha = 0,05)$ H_0 was rejected, it means that samples does not have homogenous variant which means the data was valid.

c. T Test

The researcher analyzed the scores between experimental and control classes. This test assumed that the data normality. The technique of data analysis in this study was statistical analysis with t-test to know the effectiveness of two approaches on students' pronunciation.

$$t = \frac{\bar{x}_1 - \bar{x}_2}{\sqrt{\frac{s_1^2}{n_1} + \frac{s_2^2}{n_2} - 2r\left(\frac{s_1}{\sqrt{n_1}}\right)\left(\frac{s_2}{\sqrt{n_2}}\right)}}$$

Explanation

$\bar{X}_1$ = Sample average 1

$\bar{X}_2$ = Sample average 2

S_1 = Standard deviation of sample 1

S_2 = Standard deviation of sample 2

S_1^2 = Variance sample 1

S_2^2 = Variance sample 2

r = Correlation between two samples

After all the data calculated, the last of procedure was determining of df(degree of freedom). The formula:

$$df = N_1 + N_2 - 2$$

The criteria of the testing are as follow:

If $t_{\text{value}} \leq t_{\text{table}}$, H_0 is accepted and H_a is rejected

If $t_{\text{value}} \geq t_{\text{table}}$, H_0 is rejected and H_a is accepted

d. Mann Whitney U Test

Mann Whitney U test is a non-parametric test which is used to determine the median difference between 2 free groups if the data scale of the dependent variable is ordinal or interval/ ratio but not normally distributed. The Mann Whitney U test is also called the wilcoxon Rank Sum test. It is the choice of non-parametric test if the independent T test cannot be carried out because the assumption of normality is not fulfilled. But despite the non-parametric form of the independent t test, The Mann Whitney U Test did not test the differences in the mean of two groups as the independent T test, but to test the Median (middle Value) differences between the two groups.

e. T' test

The researcher analyzed the scores between experimental and control classes. The technique of data analysis in this study was statistical analysis with t-test to know if the data is not homogen. T' for independent sample test to compare free sample if the data distributed normality, and if the data is not homogen, T' test or accent test is used to the next. If the value $(p) > \text{significant } (\alpha = 0,05)$, H_0 is accepted, it means that sample has homogenous variant which means the data was valid. If the value $(p) < \text{significant } (\alpha = 0,05)$ H_0 was rejected, it means that samples does not have homogenous variant which means the data was valid.

f. Validity

In general, validity refers to the suitability, meaningfulness, accuracy and usefulness of conclusions made by researchers. In quantitative research, validity is enhanced by careful sampling, accuracy of instrumentation, and statistical treatment of data.

The SPSS output for the Validity test is quite a lot, but what needs to be interpreted in the Validity test lies in the **Item-Total Statistics** table. The validity of each item can be seen in the value of **Corrected Item-Total Correlation** for each item. Interpretation: If the values in **Corrected Item-Total Correlation** are equal to or greater than the validity index (0.3), then the items are valid.

The result of both pretest validity score are:

a. Validity Score of Control Class

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item- Total Correlation	Cronbach's Alpha if Item Deleted
G	10,6333	1,982	,423	,664
F	10,7500	1,496	,658	,547
V	10,3333	2,351	,502	,669
P	10,7667	1,961	,412	,669
C	10,5833	1,864	,405	,678

Based on the data above, the pretest score of Control class is valid because the table **Corrected Item-Total Correlation** are greater then the validity index (0,3). The result are: Grammar (0,423), Fluency (0,658), Vocabulary (0,502), Pronunciation (0,412), Comprehension (0,405)

b. Validity Score of Experiment Class

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
G	10,2000	,907	,424	,696
F	10,3167	,836	,544	,646
V	10,0500	,920	,494	,669
P	10,1500	,916	,459	,682
C	10,2167	,891	,480	,673

Based on the data above, the pretest score of Experiment class is valid because the table **Corrected Item-Total Correlation** are greater then the validity index (0,3). The result are: Grammar (0,424), Fluency (0,544), Vocabulary (0,494), Pronunciation (0,459), Comprehensin (0,480)

g. Reliability

According to Hatch and Farhady (1982) cited in Kaswan at al *Reliabilitas bisa didefinisikan sebagai tingkat sebuah tes atau instrumen pengukuran menghasilkan hasil yang konsisten ketika dilaksanakan dibawah kondisi yang sama/serupa.*

The way used to estimate reliability in this research is to use Interrater Reliability. To gain trust in valuation, we need inter-rater reliability. Because the student's final score is a combination or average rating, reliability depends on the number of assessors (Hatch and Lazaraton, 1991; Hatch and Farhady, 1982; Howitt and Cramer, 2011) as cited in Kaswan and Suprijadi (2019).

There were two interrater who assessed the speaking performance of students (the researcher and English teacher). To find out the score are reliable or not the researcher analyze using IBM SPSS. The data reliable if the value of the **Interclass correlation of Average Measures** more than (0,8) and **significant** of the data of **Average Measures** less than (0,05). The result of reliability are:

a. Reliability Score of Control Class

Intraclass Correlation Coefficient

	Intraclass Correlatio n ^b	95% Confidence Interval		F Test with True Value 0			
		Lower Bound	Upper Bound	Value	df1	df2	Sig
Single Measures	,900 ^a	,800	,951	18,922	29	29	,000
Average Measures	,947 ^c	,889	,975	18,922	29	29	,000

Based on the data above, the pretest score of control class is reliable because the table **Corrected Item-Total Correlation** are greater then the validity index (0,3). The result are: Grammar (0,423), Fluency (0,658), Vocabulary (0,502), Pronunciation (0,412), Comprehension (0,405)

b. Reliability Score of Experiment Class

Intraclass Correlation Coefficient

	Intraclass Correlatio n ^b	95% Confidence Interval		F Test with True Value 0			
		Lower Bound	Upper Bound	Value	df1	df2	Sig
Single Measures	,469 ^a	,136	,706	2,764	29	29	,004
Average Measures	,638 ^c	,240	,828	2,764	29	29	,004

Based on the data above, the pretest score of Experiment class is reliable because the table **Corrected Item-Total Correlation** are greater then the validity index (0,3). The result are: Grammar (0,424), Fluency (0,544), Vocabulary (0,494), Pronunciation (0,459), Comprehension (0,480)

4. Implementation

The plan is one that carefully considered which involves deliberate intervention into the teacher teaching's situation that the teacher applies during the agreed period of time, and the teacher created the test items for both pre-test and post-test and also constructed statement for

questionnaire. The researcher implementing treatment for the experimental group using Audio Lingual technique as a strategy and Scientific Approach for the control group. In post-test was conducted in both classes.

5. Student Difficulties

Difficulties experienced by students are obtained through the observation of the author when conducting research and also interviewing activities after post-test pronunciation skills were carried out with conversation texts in the experimental and control groups. Through the researcher observation, these students feel burdened when they are dealing with a foreign language researcher and feel afraid to use language because of their inadequate skills in understanding and using it for everyday use. As long as the learning activities take place, students explore some things prevent them from being able to understand the material provided. Although the author uses Indonesian as the language of instruction to explain content, students still cannot understand the material, especially in grammar, vocabulary, and pronunciation.