Chapter Three

Methodology

This chapter discussed about the methodology used in this study consists of seven parts. First part presented research design used in this study. The second part presented populations and sample taken in this research. The third part discussed the research instrument which is used to collect the data. Fourth part presented validity and reliability of the instruments in this study. Fifth part presented research plan consists of the administration procedure and research timeline. Next part discussed the data collection method and reasons of choosing the method. Finally, data analysis is elaborated at the end of this chapter.

Research Design

This research employed quantitative research methodology. According to Sugiyono (2012), quantitative design is used when the researcher wants to investigate the influence of the certain treatment to another variable. The treatment (independent variable) of this research is Pair-Taping method, and the certain variable (dependent variable) of this research is students' speaking performance. Therefore, by giving a treatment to the students continually, it increased and influenced students' speaking performance. The effect of independent variable could be seen at dependent variable of this research by comparing the students' pretest before applying the treatment and got the result data from the students' posttest after applying the treatment continually.

The researcher tried to compare students' speaking performance before and after using Pair-taping method. Both of them are used to see the effectiveness of using Pair-Taping method applied in the class by comparing the result students' speaking performances score before and after using Pair-Taping method.

Quantitative approach can be classified as appropriate research design for this research because the objective of the study is to test the effectiveness of using Pair-Taping method in improving the students' speaking performance. The result from students' speaking performance in the posttest will prove that teaching speaking using Pair-Taping method regularly will improve students' speaking performance.

This study aimed to identify the effectiveness of Pair-Taping method on students' speaking performance. Experimental Design was used as a research design to conduct this research, which is more specified Quasi-Experimental Design. Sugiyono (2010) pointed out that Quasi-Experimental Design is an experiment design which manipulates the independent variable to take effect on formation of dependent variable. The plan of Quasi-Experimental is used to get information toward the research questions of the research. The subject of the research was done using non-random and do not have a control variable, so the result of the experiment is a dependent variable which is still affected by independent variable. Because this is a Quasi-experimental research design which does not have a control group, so there are other aspects that affect the result of this research.

Specifically, the design in this research is one group pretest-posttest design. Sugiyono (2010) stated that one group pretest-posttest design is a research wherein there is only one group which was given the treatment. In this research design, the researcher did the pretest to know the information before giving the treatment and the posttest to know the information after giving the treatment. It was used to know the score difference between pretest and posttest. This research design result was determined accurately because there is pretest before the treatment and posttest after the treatment, so the researcher compared the result before and after the treatment.

There are two variables involved in this research. First is independent variable (Pair-Taping Method) and the other one is a dependent variable (students' speaking performance). Therefore, the students' speaking performance can be obtained as the research result in the effectiveness of the treatment, so that the correlation between dependent variable (gives the treatment) and independent variable can be explained best.

The researcher wanted to establish possible effect between the students' speaking performance and Pair-taping method was applied in the classroom. The design of the one group pretest-posttest design as below:

Table 3.1 *The design draft* by Sugiyono (2010)

	Pre-test	Treatment	Post-test
Experimental	O1	X	O2

Explanation:

O1   : pretest of experimental group

O2   : posttest of experimental group

X   : treatment (applying Pair-Taping)

Population and Sample

　　　　Population. All students grade XI of Vocational High School 1 Godean (*SMK N 1Godean)* of Office Administration Department (*AP*) are the population in this study. Students of *AP* Department are divided into three classes namely *AP1* consisting of 32 students, *AP2* consisting of 32 and *AP3* consisting 32 students. As *SMK N 1 Godean* has three classes of *AP* Department. The population of this research is 96 students.

　　　　The researcher chose the students of grade *XI* as the population of this study based on the teachers' recommendation. There was no specific criteria in choosing the participants to get the treatment using Pair-Taping method. Students grade *XI* at *SMK N 1 Godean* was suitable to get the treatment because they have varied of weaknesses in speaking performance.

　　　　Sample. Gay and Diehl (1992) stated that sample of the research should be as much as possible because as much as sample size are taken, it will be more representative and the result of the research can be generalized. The quantity of the sample depends on types of the research. To do a Quasi- experimental research, the researcher needed minimum 15 elements in every group (Gay and

Diehl, 1992). It means that the quantity of the participants in the research should be minimum 15 participants in each group of experiment.

The sample of the research consisted of 32 students of Office Administration Department (*AP*) of *SMK N 1 Godean*. All samples were from *AP1* and all are female. Students of *AP1* were easy to be set. The students in class *AP1* have varied proficiency level in learning English especially in speaking. Students were classified as high, middle and in low level.

Like other classes at *SMK N 1 Godean*, students in class *AP1* get The Under Minimum Criteria of Competence (*KKM*) score of minimum 76.00 in English subject. *KKM* score is gotten from the calculating of *KKM* of Basic Competence (*Kompetesi Dasar*) in one semester and then sum up with the sum of Standard Competence (*Standar Kompetensi*) in one semester by the teachers. Every Basic Competencies and Indicators in previous semester are scored based on Complexity, Carrying Potency and Intake with the criteria High, Average and Low, at range point 1 to 3.

Sampling. This research employed purposive sampling technique to recruit the participants. It is used to determine the samples of this study. This sampling technique was chosen in this study, because it allows to take the participants who have a specific criteria as the researcher's needed and it is suitable to be studied (Cresswel, 2012).

The criteria that the researcher's set are students who have gotten score of *KKM* 76.00 point at range 0 - 100. Next criteria, they have willingness to be a

participant in this study. More notably, students of *AP* Department have big

motivation to improve their speaking performance and seriousness to learn

English. They have motivation to improve their speaking in the class using Pair-

taping method. It was easier for the researcher in giving the treatment.

Research Instruments

There are three instruments used to conduct this research. The first is test

consisted of pretest and posttest material and a rubric sheet. The second is lesson

plans and the last is Pair-Taping instruments.

Tests (pretest and posttest material and a rubric sheet). For gaining the

data and assessing the result, the researcher used pretest and posttest. Pretest was

used to know the previous students' speaking performance and it was given once.

After the treatment, students were given posttest to know the significant effect

from using Pair-taping method in improving students' speaking performance in

learning speaking.

Pretest and Posttest as the instrument was used in gathering the data from

students' speaking performance score before and after giving the treatment.

Pretest and posttest design were purposed to measure the effect from experimental

treatments by comparing the score of students' speaking performance in the class

before and after giving the treatment.

The researcher designs assessment tasks for interactive speaking because

this assessment design is appropriate to this research. Brown (2004) argued that

speaking can be asserted by oral production assessment. It is called by oral

interview test. The researcher wanted to know the English level of the participants before and after getting the treatment from the researcher. Grammar, vocabulary, comprehension, fluency, pronunciation and task accomplishment are also as the parameters of this research.

Test Material. The test material of this research is paper sheet. The paper sheet consisted of some question as a guideline in conducting an oral interview both in the pretest and the posttest. The test material is used as the question package that the teacher wanted to ask to the students. There are fifteen questions in the paper sheet. The questions of pretest and posttest are same. Each test spent five until ten minutes.

The Rubric Sheet. The rubric sheet used to measure students' speaking performance was taken from Brown (2001) *pp.406-407* entitled Oral Proficiency Scoring Categories. To know the students' oral proficiency score before and after the treatment, the researcher need a list of table (see Appendix 4. for details) which consists of Brown's (2001) the oral proficiency score criteria. It was used to know the students' level of their speaking performance after they have gotten score in six elements of speaking. Students of this research were scored focus on students' speaking performance. Students' performance were scored based on their fluency, pronunciation, grammar, vocabulary, comprehension and task (see Appendix 3 for details). Here are the sub categories in students' speaking performance that the researcher wanted to measure.

Table 3.2 *Oral Proficiency Scoring Categories* **(Brown 2001,** *pp. 406-407***)**

No.	Elements of Speaking	Score	Criteria
1.	Grammar	0-5	Students will be able to make and arrange good sentences in grammatical use and sufficient structural accuracy.
2.	Vocabulary	0-5	Students have variety of vocabularies to express their expression including breadth of vocabulary and idioms, colloquialisms and pertinent cultural references.
3.	Comprehension	0-5	Students will able to understand some questions, statements and expressions like happiness, sadness and sympathy.
4.	Fluency	0-5	Students will be able to speak English clearly without spluttered like a native speaker
5.	Pronunciation	0-5	Students will be able to pronounce each word with clearly articulation.
6.	Task	0-5	Students will be able to answer and ask appropriately even in social demands, unfamiliar topics and familiar topic to them.

Lesson plan. The researcher used some lesson plans as the instrument for the instructional and material design (for the treatment). The lesson plan was used to prepare the material and to control the treatment. The lesson plan was focused on applying Pair-taping method in learning speaking for Vocational High School which was appropriated with the syllabus. There are four lesson plans which are applied in four treatments.

Pair-taping Instruments. When the researcher used Pair-taping method in learning speaking, the researcher needed some equipment such as hand phone and laptop.

Hand phone. Hand phone was used to record students' conversation while doing a conversation to their partner. The researcher chose hand phone as the

equipment to record the students' conversation in a pair because each student had hand phone as the communication tool and there is an application to record a sound or voice.

Laptop. Laptop was used by the researcher to collect the students' recording. Laptop as equipment was used by the researcher to rewind or replay and save students' conversation recording. It helps the researcher to give feedback on students' speaking performance in the class.

Validity and Reliability

Validity. Before using the test as the instrument to obtain the information about students' speaking performance, the researcher tried to test the validity and the reliability of the test items.

The researcher used expert judgment to test the content validity of the instrument. Expert judgment was used to evaluate the appropriateness design of the test and to check the validity of the instrument. The result of judgment was used as the reference in designing and revising the pretest and the posttest about the oral interview test.

The pretest and posttest in this study was reviewed by the teacher of *SMK N 1 Godean*. The validity of the test has been known before it given to the students class XI in *SMK N 1 Godean*.

Reliability. Reliability means that score from an instrument are stable and consistent (Cresswell, 2012). Piloting study was concluded by the researcher to know the reliability of the test item. This technique used the instrument to test the

reliability of the instrument of the test in which the researcher applied the test or

retest method to some students. The researcher tried to test the questions of the

test by checking which question was appropriate and inappropriate. Which

question that should be rejected and need some revisions. Cohen, Manion and

Marison (2011) stated that the instrument that has piloted is reliable if the value of

Cronbach Alpha more than 0.6. The calculation calculated by using SPSS.

Table 3.3 The Reliability According to Cohen, Manion, and Marrison (2011)

Cronbach Alpha	Description
> 0.90	Very highly reliable
0.80 – 0.89	Highly reliable
0.70 – 0.79	Reliable
0.60 - 0.69	Marginally/minimally reliable
< 0.60	Unacceptable low reliable

Research Procedure

In the research procedure, there are two points that is discussed. The first

one is administration procedure and the other one is research time line.

After the pretest was finished, four sets of treatments were given to the

students. The treatment was conducted on July 20th, July 27th, August 3rd and

August 10th, 2016. The first treatment was conducted on July 20th, 2016 and was

attended by 32 students. The treatment run well and all of the activities were

completed on time. To stimulate students in speaking English, the researcher used

conversation video and handout that must be done by the students. Students also practiced their speaking in pairs with different topic and recorded their speaking.

The second treatment was conducted on July 27th, 2016 which was attended 30 students. One student asked permission to join an OSIS meeting and one students was absent. All activity could run well but there were some activities that should be done at home and submitted in the next day, but pair-taping activity could be done by the students.

The third treatment was conducted on August 3rd, 2016 and there were 29 students who attended the class. Because of school ceremony activity in previous day, there were three students absent in joining the class. All activities run well and there was one student who could not do a conversation in a pair because of the uneven members, so she did a conversation with the researcher.

The last treatment was conducted on August 10th, 2016 which was attended 31 students. One student should wait other friend to do a conversation by turns because she did not has a partner. The activity of the class could be run well but the researcher need more time to collect the students' recording. Some students could not transfer their recording because there were no connection between the laptop and their hand phone.

Posttest was done after giving four treatments. It was conducted on August 15th, 2016 and there was 32 students who attended the posttest in class *XI AP1*. Time allocation, topics and the model were the same as pretest. As a result, the researcher took 32 students as the sample of the experimental group.

Administration Procedures. The researcher did some steps in conducting this research. There are five steps that the researcher did to get permission in conducting the research in *SMK N 1 Godean*. First is asking requirements and consultations. Second is distributing a license letter. Third is knowing the letter that have received. Forth is meeting to an English teacher, the last meeting to the English teacher to consult about the pretest and posttest and the lesson plans. Steps are explained in this paragraph below.

The first asked some requirements to the teacher who has an important role in the school. The teacher gave a suggestion to make a license letter to conduct this research in this school.

Second gave a license letter to the school. After that the researcher gave the letter to the Office and got the decision after four days.

Third, the researcher went to *SMK N 1 Godean* to know the letter that have received and asking the license letter.

Fourth, the researcher met an English teacher to ask permission for the research in the class *AP1*. The teacher gave suggestion and permission to conduct this research.

Last, the researcher met English teacher to do a consultation about the pretest and posttest, then consult about the lesson plans in giving the treatments.

Research Timeline. All steps above is explained more in research timeline. In this research timeline, the researcher arranged the steps which were conducted by researcher. The research timeline is shown below:

Table 3.4 *Research Timeline*

No	Name	Month																											
		November				December				January				February				June				July				August			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
1	Asking some requirements and consultation		■	■	■																								
2	Distributing a license letter in the school					■																								
3	Checking the letter that have received						■	■																						
4	Meeting to an English teacher									■	■																			
5	Consulting the Pre-Posttest and lesson Plans													■	■															
6	Observation																	■	■	■	■	■	■							
7	Conducting the research																							■	■	■				

Data Collection Method

In collecting the data, pretest and posttest was applied. This research conducted in a month. The students were given treatments for about four weeks. The treatments were given once in a week. The researcher spent four meetings by having 90 minutes in each meeting to conduct this research. Every meeting have different topic of conversation. In the treatment process, students have much time to speak English in a pair. They speak in a pair then record the conversation by themselves. The topic of conversation is shown in table below.

Table 3.5 *The Topic of The Conversations*

Meeting	Subject	Topic of The conversation
1	Treatment	Self-Introduction
Meeting	Subject	Topic of The conversation

2	Treatment	Retelling a previous experience
3	Treatment	Hobby and interest
4	Treatment	Conversation in a hotel, restaurant and travel agency

The researcher decided to give four meetings. Actually, there is no rule about how many meetings in giving treatment. Four treatments was assumed as the best result because it can measure students' speaking performance by applying Pair-Taping method in the class continually. Research question could be answered by knowing the effect of the treatment to the students' speaking performance by giving the treatment continually and with enough treatment. The students could be familiar to the treatment and got many inputs by getting more treatments, so the effect of Pair-Taping method could be known best.

Because of limited time, the treatment was given only four meetings in a month. Students at *SMK N 1 Godean* grade XI has work training for three months in the last of this semester. Hence, the researcher conducted this research at grade *XI* and gave four meetings in a month to the students.

The researcher conducted pretest to know the students'speaking performance before getting treatments. Both pretest and posttest were conducted once. The instrument of pretest and posttest are taken from Brown (2004) where has been proved valid.

Pretest and posttest conducted by the teacher. The reason why the pretest and posttest was conducted by the teacher is avoiding the bias score of the

students' speaking performance. Other reason is demonstrating the students' best

performance in speaking as they are interviewed or tested by someone they know

well.

The researcher did a posttest to know students' speaking performance after

getting treatment. Posttest could be used to look significant effect of the students'

speaking performance after the treatment. The researcher could know the

difference score on students' speaking performance by knowing posttest and

comparing the score between posttest and pretest. Here is the researcher plans

table in collecting the data:

Table 3.6 *Data Collection Procedure*.

No.	Activity/ Topic	Meeting					
		Pretest	Week 1	Week 2	Week 3	Week 4	Posttest
1.	**Pretest**	V	-	-	-	-	-
2.	**Treatment 1.** Self-Introduction	-	V	-	-	-	-
3.	**Treatment 2.** Reteling a previous experience	-	-	V	-	-	-
4.	**Treatment 3.** Hobby and interest	-	-	-	V	-	-
5.	**Treatment 4.** Conversation in a hotel, restaurant and travel agency	-	-	-	-	V	-
6.	**Posttest**	-	-	-	-	-	V

Data Analysis

After collecting the data, the next step is data analysis. The data analyzed using descriptive analysis. The aim of this study is to know students' speaking performance in *SMK N 1 Godean* before and after giving the treatment. SPSS version 22 used as the statistical program to get the data score from students' speaking performance. The result of the students' speaking performance score in the pretest and posttest compared in this study.

The researcher wanted to see the significant effect in applying Pair-taping method on students' speaking performance. It could be shown by T-test. There were several steps in this research to gather the result.

The first step, the researcher gave score to the students' speaking performance. There were some categorizations in speaking performance scoring. The researcher gave score for students' fluency, pronunciation, grammar, vocabulary, comprehension and task.

The second stage was calculating the mean of each test. It was used to find the students' achievement who got the treatments. It was used to seek the mean score of the pretest and posttest.

The next step was comparing the pretest and posttest score. The researcher compared all the data which was taken from pretest and posttest, and then put it in each categorization.

The last step was finding t-value by using t-test. This research used paired-samples t-test. The t-test measured by SPSS. Then the t-value result compared with t-tabled calculation with 5% alpha (α). If t-value is higher than t-tabled, it

means that the implementation of Pair-taping method in the class could improve

students' speaking performance. Thus, Pair-taping method could be classified as

an alternative teaching method in learning speaking.