CHAPTER III

RESEARCH METHODOLOGY

3.1 Research Design

The type of research design was Quasi-experimental research that was aimed to test an idea (or practice or procedure) to determine whether it influences an outcome or dependent variable (Cresswell:2008). An experiment was the quantitative approach that provides the greatest degree of control over the research procedures (Gay:2000). In this research, it uses quasi-experimental design with nonequivalent control group which was an appropriate one to this research in order to find out the significant effect of using the Match Mine Strategy on the students' Speaking Ability and the Students' Motivation at the tenth grade of Vocational High School YPLP-PGRI Bangkinang Kampar Regency.

In this research, two classes will be used; one class as experimental group, which was treated by Match Mine Strategy and another one as a control group was taught by using non Match Mine Strategy. For both experimental and control groups, pre-test and post-test are administered to the students. Pre-test will be give at the beginning of the teaching learning in order to identify the students' Speaking Ability and the Students' Motivation. Then, the experimental group will be give a treatment by using Match Mine Strategy and control group using non Match Mine Strategy. During the treatment, the researcher will be accompanies by an observer, and at last, both groups will be give post-test at the end of the teaching learning processes in order to

determine the effect of using Match Mine Strategy toward students' Speaking Ability and Students Motivation.

Table III.1

Nonequivalent Control Group Design

Class	Pre-test	Treatment	Post-test
B	T1	✓	T2
C	T1	X	T2

Note:

B : Experimental group

C : Control group

T1 : Pre-test to experimental and control class.

T2 : Post-test to experimental and control class

✓ : Receiving particular treatment

X : Without particular treatment

(Creswell,1992:313-314)

Furthermore, the writer wants to investigate and find out the effect of using Match Mine Strategy on students' speaking ability, questionnaire will be administered.

3.2 Population and Sample

3.2.1 Population

Population of this research was the students of Vocational high school YPLP-PGRI Bangkinang Kampar Regency . The students are

divided into 3 classes. The number students of Vocational high school YPLP-PGRI Bangkinang Kampar Regency are 53 students.

Table III.2

The Total Population of Students at Vocational High School YPLP-PGRI Bangkinang Kampar Regency

No	Class	Students	
		Female	Male
1	X Akuntansi 1	22	2
2	X Adminwastrasi perkantoran	15	9
3	X Multimedia	4	1
	Total	41	12
		53	

2.2.2 Sample

The population of 53 students are large enough to be taken as sample. Because all samples has the same characteristic, Cohen, Manion, and Marrison suggest that the writer uses cluster sampling, suggest that the writer could use Cluster Sampling. So, the writer selected two groups of students to be taken as samples.

Cohen (2007: 110-112) says that cluster sampling was used for two reasons, first, each member of the population under study has an equal chance of being selected and second, it was also used when the population was large and widely disapersed. The method involved selecting at random from a list of the population (a sampling frame) and the required number of classes for the sample. The researcher choose the class by lottery, each class represent 1 lottery. So, there are 3 lottery that choose the class by the researcher randomly in twice. In the first step, the researcher choose one of 3 lottery for experimental class. In the second step, the researcher choose also choose one of 3 lottery for control class.

Finally, the researcher get the first class was the experiment class X Akutansi treated by using Match Mine, and the second was the control class X Administrasi perkantoran which was treated by using conventional strategy.

The number of the students in those classes was that 48 students. So, 48 students are representative enough to be sample of this research.

Table III.3

The Sample of the Research

No	Class	Type	Students		Total
			Female	Male	
1	X Akutansi	Experimental Class	22	2	24
2	X Adminwastrasi perkantoran	Control Class	15	9	24
Total					48

3.3 Instrumentation

3.3.1 Pilot Study

a. **Writing Proposal of the Research**

A pilot study was a small scale preliminary study conducted in order to evaluate feasibility, time, cost, adverse events, and affect size (statwastical variability) in an attempt to predict an appropriate sample size and improve upon the study design prior to performance of a full-scale research project (Stephen B,2007:168-169).

The title of thwas research was " The Effect of Using Match Mine Strategy on Students' Speaking Ability and Their Motivation at Vocational High School YPLP PGRI Bangkinang

Kampar Regency". This was an experimental research which consisted of three variables: one independent variable (Match Mine Strategy) and two variables (students' speaking ability and motivation).

This research was conducted in Vocational High School YPLP PGRI Bangkinang from January to February 2017 in which the subject of the research was the first year students. In conducting the research, there are two classes which are involved, they are an experimental class (teach by using Match Mine Strategy) and a control class (teach without using Match Mine Strategy)

The purpose of the study was to find out whether there was significant difference of the students' speaking ability and their motivation between a). pre-tests of both experimental and control class, b). pre-tests and post-test of experimental class, c). pre-tests and post-test of control class, d). post-tests of both experimental and control class, e). improvement between experimental and control classes.

b. **Procedures of the Research**

Preparation is one of the important steps that must be done by the researcher before conducting the research. The preparation related to what is needed to the implementation of teaching process was in the following:

1) Observation

In order to measure students' speaking ability and their motivation, students' activity during teaching and learning process are observed by using an observation checklist.

2) Pre-test

In this step, the students was given oral test as the pre-test in order to know their speaking ability before giving the treatment.

2) Treatment

Students who are in experimental class was give the treatment of Match Mine Strategy and control class was taught without using Match Mine Strategy.

3) Post-test

The students was given oral test as the post-test in order to know their speaking ability after giving treatment to experimental class and without using Match Mine Strategy for the control class.

4) Conducting the tryout of questionnaire give in order to know the students' motivation before getting the treatment.

5) Analyzing validity and reliability of the questionnaire

After getting the try out results, the results are analyzed whether students has high motivation or not.

c. **Implementation of the Study**

In implementing the research, thwas research focused on some parts. One of them, influence factor. It was used the same factors in order

to get trustworthy that the experimental class and the control class has the same characteristics, except the strategy of learning. The influence factors in implementing the teaching process are: learning purpose, students, teacher, situation and condition, and facilities and the teaching strategy.

1) Learning purpose

The purpose of learning of both groups was to improve and enable students to speak especially describing something in descriptive text.

2) Students

The students who became the subject of this research are the second year students of Vocational High School YPLP PGRI Bangkinang Kampar Regency at the tenth grade.

3)Teacher

The teacher who taught students in thwas study was the Englwash teacher who was in charge of teaching eleventh grade at schools. So, collecting the data did not dwasturb the learning and teaching process in the school.

In implementing the research, the teacher of the class gave treatment by using Match Mine Strategy (in experimental class) and the researcher played a role as an observer in the classroom.

4) Situation and Condition

The situation and condition was similar to either learning time or place.

5) Facilities

The facilities which are used in thwas study are a laptop, a projector, media, materials and books for learning and teaching process.

6) Teaching Strategy

In the experimental class, the teacher used Match Mine Strategy in experimental class and in control class was not applied Match Mine Strategy.

7) Lesson Plan

Module was a tool or media in teaching and learning process which consist of material, method and evaluation. The module, this research was guideline for teacher to apply Match Mine Strategy in teaching and learning speaking ability. This module guided the teacher how to apply the strategy precisely, to identify how this strategy would boost the students' motivation, and to identify this strategy would enhance students' speaking ability.

In the Experimental class, the teacher used Match Mine Strategy and in control class was not applied Match Mine Strategy.

a) Lesson plan

Lesson plan was really important in the teaching process. At the teaching time, the teacher taught the

material prepared by using Match Mine Strategy to the control class.

b) Procedure of using Strategy (Match Mine)

Below are the teaching procedures used by the teacher while applying Match Mine Strategy.

The Steps of Activity

1. Initial activities

➢ The teacher greets and checks the student's attendance lwast.
➢ The teacher constructs the student minds by how they are today and what some fun they have get.
➢ The students are give the objective of instruction,standard competency and basic competency as well as benefit of learning the material.

2. Main Activities

➢ The teacher otivates the students by giving statements and questions.
➢ The teacher asks students to review all importance part of descriptive text, such as the definition, generic structure , language feature , function of the text.
➢ The teacher explains the definition and rules of match mine strategy.
➢ Teacher ask sender arranges game pieces in game board while receiver waits quietly.
➢ Teacher asks sender gives the receiver direction to match the sender's arrangement of game pieces on the game board.
➢ When finwashed, the teacher ask partners get game boards side by side to check for accuracy.
➢ Teacher asks receiver prawases sender, and they develop improvement strategies.
➢ Roles are switched , and the game was played again…

3. Final activities

➢ Teacher reflects the activities by asking students' difficulty during the session and concludes about material that has been taught today.(descriptive test)
➢ Teacher asks the students to prepare themselves for the next class

3.3.2 Validity

Fraenkel and Wallen (2006:44) said that the term validity as used in research refered to the appropriate, meaningful, and usefulness of any inferences a researcher draws based on data obtained through the use of an instrument". Furthermore, Gay (2000:163-167) states that three kinds of validity. They are content validity, and construct validity.

In this research, content validity was used. In line Brown (2003:22), "content validity was if a test actually samples the subject matter about which conclusions are to be drawn, and if it requires the test taker to perform the behavior that was being measured". Finally, the writer determined the validity by referring to the material give to the students based on the students' text book. In other words, the test give to the students was based on the material that they has learn. The used books are Englwash on Sky by Nur Zaida (2009,Surakarta:Erlangga), Effective world 1 by F.A. Soeprapto & Mariana Darwwas (2007.Jakarta:Yudhwastira), and), Modul Bahasa Inggrwas by Tim Kreatif Hayati Tumbuh Subur(2011.Solo: CV. Hayati Tumbuh Subur).

3.3.3 Reliability

Reliability was the measuring of test that was consistent and dependable. It means that the test should consistently measure the person's ability. Furthermore, Brown (2003:20) states that there are two scoring process in reliability. They are inter-rater reliability and intra-rater reliability occurs when two or more scores yield inconsistent scores of the test. Intra-rater reliability was common occurrences for classroom teachers because of the nuclear scoring criteria, bias

toward particular 'good' and 'bad' students, or simple carelessness. In this research, the Inter-rater reliability was used for students' speaking ability and Intra-rater reliability was used for students' motivation. it means that the scores of the test for students speaking ability will be evaluated by the rater and for students' motivation will be evaluated by the researcher.

3.3.4 Normality Test of Data

Neil Abell (2009:121) stated that the Kolmogorov-Smirnov Z test was typically used to assess univariate normality. In order to ensure that the data was normally dwastributed, the researcher used the Kolmogorov-Smirnov Z test. The normal dwastribution of data was computed by using SPSS 16. The SPSS result for Kolmogorov-Smirnov test would be interpreted as follows:

p-value (Sig.) > 0.05 = The data was normal dwastribution.

p-value (Sig.) < 0.05 = The data was not in normal distribution.

The result of normality test of data which was computed by using SPSS 16.0 get p-value 0.806 for the control class and 0.385 for the experimental class. Both p-values are higher than 0.385. It could be concluded that the data of speaking ability in the control and the experimental class was normal.(see appendix 7).

3.3.5 Homogenity

The homogeneity test was used to determine whether population variance homogenous or not. Pallant (2010:206) contends that if significance value was greater than 0.05, it means that variance for the two groups was equal.

3.4 Data Collection Technique

In order to get data support this study, techniques below are used:

3.4.1.   Observation

In order to measure students' speaking ability and their motivation, students' activity during teaching and learning process were observed by using an observation checklist.

Table III.4

The Blue Print of Observation

No	Item Observed	Yes	No
1	The teacher motivates the students by giving statements and questions.		
2	The teacher asks students to review all importance part of descriptive text, such as the definition, generic structure , language feature , function of the text.		
3	The teacher explains the definition and rules of match mine strategy.		
4	Teacher ask sender arrages game pieces in game board while receiver waits quietly.		
5	Teacher asks sender gives the receiver direction to match the sender's arrangement of game pieces on the game board.		
6	When finished, the teacher ask partners get game boards side by side to check for accuracy.		
7	Teacher asks receiver praises sender, and they develop improvement strategies.		
8	Roles are switched , and the game was played again…		
9	Teacher gives assessment in written test.		
10	Teacher reflects the activities by asking students' difficulty during the session.		
11	Teacher asks the students to prepare themselves for the next class.		

3.4.2.   Test

A test is administered to measure the students' speaking ability and their motivation in the form of an oral Test. The test consisted of a topic of speech

that was taken from the students' text book and other sources. The topic was about descriptive text.

Descriptive text is a kind of text with a purpose to give information. The context of this kind text was the description of particular thing, animal, person, or other, for instance : our pets or a person we know well. According to Gerot (Linda gerot and wignell:1994) states the functional of descriptive text was to describe a particular person, place, or thing. a good description was like a "word picture"; the reader or listener can imagine the object, place, or person in hwas or her mind. According to Oshima and Hogue (1997:50), descriptive writing appeals to the sense, so it tells how something looks, feels, smells, tastes, and/ or sounds. In this study, it tested students speaking ability not writing. so they have to describe a picture orally.

The test was administered twice. First, a pre-test conducted before the samples get the treatment (using Match Mine Strategy) for the experimental group and control group also get pre-rest. The purpose of pre-test was to measure students' speaking ability before the treatment. Second, a post-test conducted after the samples get the treatment (using Match Mine Strategy) for the experimental group and control group also get a post-test. The purpose of the post-test was to measure the students' speaking ability and their motivation by using Match Mine Strategy.

The test used oral test. It used picture-cued to test the students' oral production. It was used to find out the students' speaking ability in descriptive text. Brown (2003:151) says in his book that picture cued was

one of the more popular ways to elicit oral language performance at both intensive and extensive level that requires a description from the test taker. The students' oral productions will be recorded, analyzed, and scored. The scoring process were done by the two raters who act out of the writer.

To find out the effect using Match Mine strategy on students' speaking ability and their motivation at the tenth grade of Vocational High School YPLP-PGRI Bangkinang Kampar Regency, test was administered to assess students' speaking ability. It was done into two stages. The first was pre-test, it was done before doing the treatment. The second was post-test, it was done after doing the treatment. The blue print of the speaking test shown below:

Table III.5

The Blue Print of speaking test

No	Theme	Questions
1	**Descriptive text (describing a picture orally)**	1. how many people are there in the picture?
		2. what do they look?
		3. what are they (each person) doing)?
		4. where does it take place?
		5.What are both people probably talking about?

The speaking results are evaluated by concerning five components and each components has 20 points. The highest score and the total components was 100. The specification of the speaking test was shown as in the following:

Table III.6
The Specification of Speaking Ability

No	Speaking Components	The Highest Score
1	Accent	20
2	Vocabulary	20
3	Grammar	20
4	Fluency	20
5	Comprehension	20

In order to identify the category of students' speaking ability, it was used a certain classification.(Riduwan:2015,15). The level of speaking ability are as follows:

Table III.7
The Classification of Speaking Ability

No	Level	Score	Category
1	Level 1	81-100	Very Good
2	Level 2	61-80	Good
3	Level 3	41-60	Sufficient
4	Level 4	21-40	Poor
5	Level 5	0-20	Very poor

Table III.8
Score and Rating

Score	Rating
16-25	0+
26-32	1
33-42	1+
43-52	2
53-62	2+
63-72	3
72-82	3+
83-92	4
93-99	4+

According to Adams and Frith in Hughes (2003:110-112) there are some components that should be considered in giving students' speaking ability score. There are accent, grammar, vocabulary, fluency and comprehension. He described the rating as follows

Table III.9

The Indicators Of Speaking Ability

Aspects assessed	score	The indicators
Grammar	1	Grammar almost entirely inaccurate phrases
	2	Constant errors showing control of very vew major patterns and frequently preventing communication.
	3	Frequent errors showing some major patterns uncontrolled and causing occasional irritation and mwasunderstanding.
	4	Occasional errors showing imperfect control of some patterns but weakness that ciuses mwasunderstanding.
	5	Few errors, with no patterns of failure.
	6	No more than two errors during the interview.
Total		
Vocabulary	1	Vocabulary inadequate for even the simplest conversation.
	2	Vocabulary limited to basic personal and survival areas (time, food, ranportation, family, etc)
	3	Choice of words sometimes inaccurate,

		limitations of vocabulary prevent dwascussion of some common professional and social topics.
	4	Professional vocabulary adequate to dwascuss special interst; general vocabulary permits dwascussion of any nontechnical subject with some circumlocutions.
	5	Professional vocabulary broad and precwase, general vocabulary adequate to cope with complex practical problems and varied social situation.
	6	Vocabulary apparently as accurate and extensive as that of an educated native speaker
Total		
Comprehension	1	Understand too little for the simplest type of conversation.
	2	Understand only slow, very simple speech on common social and tourwastic topics, requires constant repetition and rephrasing.
	3	Understand careful, somewhat simplified speech when engaged in a dialogue, but may require considerable repetition and rephrasing.
	4	Understanding quite well normal educated

		speech when engaged in a dialogue, but requires occasional repetition and rephrasing.
	5	Understand everything in normal educated conversation except for very colloquial or low-frequency items or exceptionally rapid or slurred speech.
	6	Understand everything in both formal and colloquial speech to be expected of an educated native speaker.
Total		
Accent	1	Pronunciation frequently unintelligible
	2	Frequent gross errors and a very heavy accent make understanding difficult, require frequent repetition.
	3	"foreign accent" require concentrated lwastening, and mwaspronunciations lead to occasional mwasunderstanding and apparent errors in grammar or vocabulary.
	4	Marked "foreign accent" and occasional mwaspronunciation which do not interfere with understanding.
	5	No conspicuous mwaspronunciations, but would not be taken for a native speaker.

	6	Native pronunciation, with no trace of "foreign accent"
Total		
Fluency	1	Speech was so halting and fragmentary that conversation was virtually impossible.
	2	Speech was very slow and aueven except for short or routine sentences.
	3	Spee h was frequently heswastant and jerky; sentences may be left uncompleted.
	4	Speech was occasionally heswastant, with some unevenness caused by rephrasing and grouping for words.
	5	Speech was effortless and smooth, but perceptibly non-native in speech and evenness.
	6	Speech on all professional and general topics as effortless and smooth as a native speaker's.
Total		

3.4.3. Questionnaire

In order to measure students' motivation, the students' activity during teaching and learning process was observed by using an observation checklist. The questionnaire was taken twice for experimental and control group. It was a technique to elicit students' feeling, opinion, or

idea in non face to face interaction. Likert Scale was used to measure the motivation (Singh: 2006, 139). It consisted of five categories : 1. Never, 2. Seldom, 3. Sometimes, 4. Often, 5.Always

Table. III.10
Indicators of Motivation Test

NO	INDICATORS	STATEMENTS	NO
1	Attendance and Dicipline	Since at the first meeting I aware thwas lesson easy for me and I would not be absence in thwas class (Semenjak pembelajaran di pertemuan pertama until the end, saya sadar bahwa pembelajaran ini mudah bagi saya dan saya tidak ingin tidak hadir di kelas ini)	11
		The exercwase in thwas lesson were too easy , so I always submit the exercwase was on time (Tugas-tugas latihan pada pembelajaran ini terlalu mudah, jadi saya selalu mengumpulkan tugas-tugas tepat waktu)	1
		I prepare my englwash lesson with repeat material the previous lesson and read material the next lesson (Saya mempresiapkan pelajaran bahasa inggrwas saya dengan mengulang kembali materi sebelumnya dan membaca materi berikutnya)	13
2	Participation and completion of work	Thwas lesson stimulate me to be more active in the class in speaking Englwash language (pembelajaran ini menstimulasi saya menjadi lebih aktif di kelas dalam berbicara bahasa inggrwas)	3
		Using picture was help me to be more easy and spontaneously to speak Englwash even when the teacher ask question or work in my team (penggunaan gambar menolong saya menjadi lebih mudah dan spontan untuk berbahasa inggrwas bahkan ketika guru bertanya atau belajara berkelompok)	10
		I felt good when I can show my speaking in the class with my peer or team (Saya merasa senang ketika saya bwasa memperlihatnkan berbicara bahasa inggrwas saya di kelas dengan pasangan saya atau kelompok)	2
3	Task perswastence	In order to complete the assignment, I explored it with searched internet and read other books (Untuk melengkapi tugas tugas, saya mengembangkannya dengan mencari di interner dan membaca buku lainnya)	8

		The content of thwas lesson was very useful , I want to explore more about the lesson whether the teacher has give detail information (Wasi pembelajaran ini bermanfaat . Saya ingin mengeskplor pelajaran tersebut walaupun guru telah memberikan penjelasan yang rinci)	18
		The variety of speaking in Englwash, exercwase and illustrations, helped keep my attention on the lesson, (Keanekaragaman dalam berbicara bahasa inggrwas, latihan dan ilustrasi,memukau perhatian saya pada pembelajaran ini)	14
4	Quality of task involvement	I revwase my grammar and pronounciation by peer evaluation (saya memperbaiki tata bahasa (grammar) dan pengucapan (pronounciation) dengan evaluasi bersama teman)	6
		I could relate the content of thwas lesson to things I have seen,done, or thought about in my own life (Saya dapat menghubungkan wasi pembelajaran dengan hal-hal yang telah saya lihat, saya lakukan, atau saya pikirkan di dalam kehidupan sehari-hari)	4
		After working on thwas lesson and completing the task for awhile, I was confident that I would be able to pass a test on it (Setelah mempelajarai pembelajaran ini dan melengkapi tugas saya beberapa saat, saya percaya bahwa saya akan berhasil dalam tes)	9
5	Independent Learning	I practice to speaking Englwash many times and everywhere to improve my speaking ability (Saya berlatih berbicara bahasa inggrwas sebanyak mungkin dan dimana saja untuk meningkatkan kemampuan berbicara bahasa inggrwas saya)	5
		I practice my speaking ability through watching Englwash movie and lwastening music to improve my pronunciation from native speaker (Saya melatih kemampuan bahas inggrwas saya melalui menonton film berbahasa inggrwas dan mendengarkan music berbahasa inggrwas untuk meningkatkan pengucapan saya dari ahlinya(bule))	7
		I pull together information from different sources, such as books, articles, and so on only for thwas lesson (saya menggali informasi dari sumber yang berbeda, seperti buku-buku, artikel, dan lainnya demi untuk pembelajaran ini)	12
6	Interest and liking	I enjoyed thwas lesson so much that I would like to know more about thwas lesson (Saya sangat senang pada pembelajaran ini sehingga saya ingin mengetahui lebih lanjut pembelajaran ini)	16
		I am relaxed when I speak Englwash (Saya senang ketika berbicara bahasa inggrwas)	17

I think Englwash lesson was more fun when I tried to improve my speaking ability in class (Saya pikir bahasa Inngrwas lebih menyenangkan ketika saya mencoba untuk meningkatkan kemampuan berbicara saya di kelas)	15	

In order to identify the category of students' motivation, the following category was used (Arikunto,2013:281)

Table III.11
Motivation Category

No	Categories	Score
1	Very Good	80-100
2	Good	66-79
3	Sufficient	56-65
4	Poor	40-55
5	Very Poor	0-39

3.5 The Technique Of Data Analysis

In this research, the data analyzed by using statictical method. Students' score of the experimental and the control group are used as the data of the research which was measured by two raters. The data was analyzed by using t-test (Hartono,2010:178) to know whether the result of the research was statistically significant the data are calculated by using SPSS 19.0. First, found out the difference between post-test score and pre-test score in order to know the gain of each group, post-test score subtracted pre-test score and it was equivalent with gain score, and the t-observed was found to analyze the data.

In order to test hypothesis, t-test was used to discover whether there is significant differences between both groups, using parametric data which is drawn from random samples with a normal distribution. The test administered twice. First, a pre-test conducted before the samples get the treatment. Second, post-test conducted after the samples get the treatment.In this research, the researcher uses the following formulas.

3.5.1 Independent sample t-test

In analyzing the data, it used scores of pre-test and post-test of experimental and control groups. The score was analyzed statistically, both descriptive and inferential statistics. In this research, the formulas are:

$$to = \frac{M_x - M_y}{\sqrt{\left(\frac{SD_x}{\sqrt{N-1}}\right)^2 + \left(\frac{SD_y}{\sqrt{N-1}}\right)^2}}$$

Where:

to $\quad$ = The value of t-obtained
M_x = Mean score in pre-test (experimental group)
M_y = Mean score in post-test (control group)
SD_x= Standard deviation of experimental group
SD_y=Standard deviation of control group
N_1 $\quad$ = Number of the sample in pre-test
N_2 $\quad$ = Number of the sample in post-test
1 $\quad$ = The constan number

The t-table has the function to see a significant difference among the mean of the score of both experimental group and control group. The t-obtained value was consult with the value of the t-table at the degree of freedom (df)= (N1-N2)-2 which was statwastically hypotheswas :

H_a : to > t-table

H_0 : to > t-table

H_a was accepted if to > t-table or there was effect after giving the treatment. The effect of using Match mine strategy on student's speaking ability and their motivation.

H_0 was accepted if to> t- table or there was no significant effect after giving the treatment. The effect of using Match mine strategy on student's speaking ability and their motivation.

3.5.2. Paired Sample t-test non-Independent Sample T-test

Non-independent sample t-test known also as paired sample t-test. this formula used to obtain the result of the third hypotheses that is to find out whether there was significant effect of using Match Mine strategy toward students' speaking and their motivation ability at the tenth grade students of Vocational High School YPLP-PGRI Bangkinang Kampar Regency. L.R Gay (2009) states that t-test for non independent samples used to compare groups that formed by some types of matching or to compare a single group's performance on a pre- and post-test or on two different treatments.

In this time, pre-test and post-test scores of the experimental class was used in order to find out the significant effect of Match Mine strategy on students' speaking ability and motivation. To obtain the data, SPSS 20 will be used. the formula of paired sample t-test:

T-Test, as follows:

$$t = \frac{\bar{D}}{\frac{\sum D2 - \frac{\sum D\ 2}{N}}{N(N-1)}}$$

D= gain score (D=X_2 - X_1)

Afterward, it was better to find the effect size of T-test. Eta squared ranges from 0-1 and represents the proportion of variance in the dependent variables that was explained the independent variables. the formula was as follows:

$$^2 = \frac{t_2}{t_2 - n - 1}$$

$$eta\ squared = \ ^2 \times 100\%$$

Where :

$$^2 = Coefficient$$

$$eta\ asuared = Coefficient\ effect$$

An effect size can lie between 0-1. In using Cohen's (Cohen, Manion. and Marwasson, 2007:521) as follows:

Table III.12

The Classification of Eta Squared score

0 - 0.20 = weak effect
0.21-0.50 = modest effect
0.51-1.00 = moderate effect
> 1.00 = high effect