CHAPTER III

METHODOLOGY OF RESEARCH

In this chapter the researcher describes the research method. It consists of research design, population, sampling technique, sample, research instrument, validity and reliability testing, normality and homogeneity testing, data collectingmethod and data analysis.

A. Reasearch Design

In this research, the researcher used quantitative method especially quasi-expreimental design. Research design is the researchers' plan of how to proceed to gain an understanding of some groups or some phenomenon in its natural setting. The design begins with a general statement of a research problem or topic.

According to Nazir (2003: 84), research design is all process that be needed in conducting a research. It means include planning and doing the research. In this study the researcher uses experimental design with quantitative approach. This research was intended to investigate the effectiveness of using team games tournament to know the students' reading achievement in hortatory exposition text at second grade of SMAN 1 Tulungagung.

According to Ary (2010:316) there are two kinds of design in Quasi Experimental. There are; the nonrandomized control group, pretest–posttestdesign and counterbalanced design.

This research was conducted in the quasi experimental research design named Nonrandomized Control Group, Pretest-Posttest Design. A quasi-experiment is a study that takes place in real-life settings rather than in laboratory settings, they are oftenconsidered not truly experimental research, but rather correlational research,which involves identifying statistical relationships between two variables ratherthan causal relationships (Vanderstoep and Johnston, 2009:37).

According to Ary (2010:316) stated the design of Quasi Experimental Design, especilly Nonrandomized Control Group, Pretest-Posttestcan be describe in table 3.1.

Table 3.1
Quasi-Experimental Design

Group	Pre-test	Independent	Post-test
E	Y_1	X	Y_2
C	Y_1	-	Y_2

In which,

E = experimental group

C = control group

Y_1 = reading comprehension before the manipulation of treatment

X = treatment using tea party technique

Y_2 = reading comprehension after the manipulation of treatment

This study was conducted by comparing the experimental group (Y) and control group (X). The control group is the class which is not taught reading by using Team Game Tournament (TGT). The class which is taught by using team game tournament was indicated as experimental group.

In this design, the two groups were taught by using the same topic. The experimental group was taught by using Team Game Tournament (TGT)strategy, while the control group was taught by using lecturing strategy. Random assignment to treatment groups is not used in this design. The effectiveness will be known after knowing the significant differences between post-test in experimental group and post-test in control group.

B. Population, Sampling Technique and Sample

Population is the large group which the researcher wants to generalize the data of the research. Cresswell (2012: 142)stated that "population is a group of individuals who have same characteristic." The other hand, Louis (2005:45)states that population is the object that has some qualities and characteristic that is chosen to be cleared and to be concluded by the researcher. The target population in the present study is all the second gradestudents of SMAN 1 Tulungagung, 240 students that distribute in seven classes.

There are two types of technique sampling, the first is probability sampling, and the second is non probability sampling (Sugyono, 2010 : 62).In this research the researcher takes non probability sampling that is used purposive sampling technique. Based on Ashley (2014) states a purposive sampling, also commonly called judgmental sample, is one that selected based on the knowledge of a population and the purpose of the study. According to Ary (2010:648) purposive sampling is a nonprobability sampling technique in which subjects judged to be representative of the population are include in the sample. Based on information of English teacher in SMAN 1 Tulungagung, IPA 1 and IPA 2 had equal average of achievement in Eglish in the previous examination (mid-test).

According to Gay (2011:123), sample is the individual selected comprise. It means that sample is only a part of population.. According to Gay (1992: 126) a good sample is one that is representative of the population from which it was selected. In this research, the sample selected was second grade of SMAN 1 Tulungagung that consists of 36 students IPA 1 as experimental group and 36 students IPA 2 as control group in academic year 2017/2018.

C. Research Variable

A variable is an attribute that is regarded as reflecting or expressing some concept or construct (Ary, 2002:31). In addition, according to Ary (2010:37) states that variable is a construct or characteristic that can take on

differ values or scores. In this research there are two kinds of variable such as independent variable and dependent variable. The independent variable is a factor that affects the dependent variable. Meanwhile, dependent variable is the one affected by independent variable. In this research, the independent variable is the use of Team Game Tournament. The dependent variable in this research is the score of students's reading comprehension.

D. Reasearch Instruments

In this research, the researcher usedan instrument to collect the data. The researcher usedtest as the research instrument. According to hhs and Schmidt (2002:546), test is any procedure for measuring achievement, knowledge, or performance. Testing provides a form of feedback of the understanding of student's achievement.

The test will be used to measure the students' achievement in reading comprehension being taught and without being taught by using Team Game Tournament strategy. The test consists of 20 items multiple choice questions, consist of 4 texts entitled skateboarding, shoulds Americans be forced to Public Transportation?, keeping dogs, the importance of reading. Each item questions get 5 score, so when the students answer 20 items truely the score will be 100.

E. Validity and Reliability Testing

In this research, the researcher used instrument of a test to collect the data. According to Ary (2010: 224) quantitative research always depends on measurement. Ary states there are two very important concepts that researcher must understand when they use measuring instruments are valid and reliable. Researchers must be concerned about the validity and reliability of the scores derived from instruments used in a study and must include this information in the research report.

1. Validity Testing

Heaton (1975: 159) defines the validity of a test as the extent to which it measures what it is supposed to measure and nothing else. To measure whether the test has a good validity or not, the researcher analyzed the test from content validity, face validity, and construct validity. These are three ways for testing the validity of test:

a. Content validity:

A test is said have content validity if its content constitutes a representative sample of language skills, structure, etc. being tasted. Lodico et al. (2006:93), the content validity is composed of two items of validity: sampling validity and item validity. Both sampling validity and item validity involve having experts examine items that make up the instrument.

Ary,et al (2010:226) stated that to have a content validity, the instruments are representative of some defined universe or domain of

content. In addition, the test will have content validity if it includes a proper sample of the structure or content which is relevant with the purpose of the test. It meansthat the items of the test must really test the domain that was reading skill. In order to judge whether the test has content validity, itneeds a specification of the skills or structure which being tested.

A comparison of test specification and test content is the basis for judgment for content validity. The researcher made this test based on the syllabus of second grade of SMA.

Table 3.1
Syllabus of Second Grade SMA

Kompetensi Dasar	Materi Pokok
11.2 Merespon makna dan langkah retorika dalam esei yang menggunakan ragam bahasa tulis secara akurat, lancar dan berterima dalam konteks kehidupan sehari-hari dan untuk mengakses ilmu pengetahuan dalam teks berbentuk: *narrative, spoof,* dan *hortatory exposition*	Teks tulis berbentuk *hortatory exposition*

b. Face validity:

Face validity Face validity is hardly a scientific concept that is very important. A test which does not have face validity may not be accepted by test takers, teachers, educations, authorities or employers.

In this test, there are some aspects that are consideration from this test to make a good test based on the validity.

1) The instruction must be clear for the students
2) In this test, the students can conduct a paragraph and express their ideas in a piece of paper. The instruction based of syllabus and suitable with their level.
3) Time allocation must be clearly. The teacher give limited about minutes to write a paragraph.

In this test, there were some aspects that are considered from this test to make a good test based on the face validity. The instruction must be clear for the students, so the students are able to understand what they should do in that test. Then, the students of second grade were instructed to read hortatory exposition text.

In this research, the researcher used face validity by consulting with the expert as a validator. The validator is the English teacher in SMAN 1 TULUNGAGUNG.

c. Construct validity

Brown (2004:25) mentioned that a construct is any theory, hypothesis, or model that attempts to explain observed phenomena in our universe of perception. Based on the theory above, in the test, the researcher asked the students to answer the question based on hortatory exposition text to measure to the students' reading achievement and therefore valid in the term of construct

validity.Moreover, to find out the validity of instrument item the researcher conducted Pearson Product Moment Correlation. The result of validity showed in table 3.2.

Table 3.2
Validity of Instrument Items

No Item	r_{hitung}	r_{table}5% (10)	Kriteria	No Item	r_{hitung}	r_{table}5% (10)	Kriteria
1	0,690	0,632	Valid	11	0,729	0,632	Valid
2	0,857	0,632	Valid	12	0,955	0,632	Valid
3	0,857	0,632	Valid	13	0,646	0,632	Valid
4	0,955	0,632	Valid	14	0,651	0,632	Valid
5	0,729	0,632	Valid	15	0,646	0,632	Valid
6	0,857	0,632	Valid	16	0,804	0,632	Valid
7	0,857	0,632	Valid	17	0,801	0,632	Valid
8	0,668	0,632	Valid	18	0,857	0,632	Valid
9	0,857	0,632	Valid	19	0,723	0,632	Valid
10	0,729	0,632	Valid	20	0,750	0,632	Valid

The result showed that all item questions higher than 0,632. It means that the item questions are valid and the test can be used as research instrument.

2. Reliability Testing

Ary (2010: 236) stated the reliability of a measuring instrument is the degree of consistency with which it measures whatever it is measuring. According to triton in Sujianto (2009) the value of cronbach,,s alpha can be interpreted as follow:

- If the alpha cronbach score 0.00-0.20 meansless reliable
- If the alpha cronbach score 0.21-0.40 means rather reliable
- If the alpha cronbach score 0.41-0.60meansenough reliable
- If the alpha cronbach score 0.61-0.80 means reliable
- If the alpha cronbach score 0.81-1.00 means very reliable

In this research, the researcher used Alpha Cronbach Reliability Coefficient in SPSS 16.0 to analyze the data as follow:

Table 3.3
Reliability Testing

Cronbach's Alpha	N of Items
.966	20

Based on the table above, the value of alpha is 0.966. It means that the result is very reliable because the value is between 0.80 –1.000.

F. Data Collecting Method

In this research, the method of collecting data is using test. The researcher will use the method to know the score of student's achievement in reading hortatory exposition text.

1. Pre-test

   Pre-test was given before the researcher taught hortatory exposition using Team Game Tournament. The researcher gave the students a pre-test which consist of 20 multiple choices item and it has 4 texts for each 5 questions. Pre-test was conducted in control group on 2nd of May 2018 followed by 36 students in the class and in experimental group on 2nd of May 2018 followed by 36 students in the class.

2. Post-test

   Post-test was given after giving treatment that is Team Gamesw Tournament. The post-test in control group was conducted on 24th of May 2018 , followed by 36 students in the class. The post-test in experimental group was condusted on 21st of May 2018 followed by 36 students in the class. The question of post-test are similar to pre-test questions. It consists of 20 multiples choice items. The questions begin with a text, in post-test there are 4 texts.

G. Treatment

The students were treated after doing pre-test for both of the control and experimental group. The first treatment was given on 14th of May 2018, and the second treatment on 15th of May 2018. The researcher applied the Team Game Tournament strategy by doing some steps, there are;

1. Group the students with each group consisting of three to five people. The member made the heterogeneous group includes the characteristics of intelligence, beginning math skills, learning motivation, gender, or different ethnic backgrounds.
2. Learning activity begins with the presentation of teachers in explaining the lessons of exposure to the problem, providing data, giving example. Presented a goal is to introduce concepts and encourage student curiosity.
3. Understanding of concept was done by students are given group tasks. They may do these tasks simultaneously or alternately with each other to ask the others or discuss the issue in a group or whatever it takes to master the subject matter. The students not required to fill out an answer sheet but also to learn the concept. Members of the group were told that they were considered not finished studying the matter until all group members understands the subject matter.
4. Students play academic games in the tournament weekly and friend group should not help each other. The game is intended to identify

individual level mastery students to a concept in a way that students are given problem can be solved by applying the concept of a previously owned.

5. The result of the next game as compared with the previous average and the points will be awarded based on the level of success students achieve to exceed previous performance. Points are then added together to form a group score.
6. After that the teacher gives awards to the best group performance or who have met certain criteria. The award here can be a gift, certificates, and others.

H. Normality and Homogenity

a) Normality Testing

Normality testing is conducted to know whether the data set is well-modeled by a normal distribution or not. In this research, the researcher used Saphiro Wilk test in IBM SPSS Statistics 16 with the value of significance (α) = 0.05 as the computation of normality testing. Testing of data normality is conducted by the rules as follow:

- If the value of significance > 0.05 the data is in normal distribution.
- If the value of significance < 0.05 the data is not in normaldistribution. The analysis was as follow:

Table 3.4
Normality Testing

		Shapiro-Wilk		
	Kelas	Statistic	Df	Sig.
Hasil test	Kelas A	.948	36	.094
	Kelas B	.947	36	.082

The result show that the sig of Saphiro Wilk is 0,94. It means that the result is higher than 0,05 and it proves that the test was normal distribution.

b) Homogenity Testing

Homogeneity testing is conducted to know whether the gotten data has ahomogeneous variance or not. The computation of homogeneitytesting using SPSS 16.0 for windows is Test of Homogeneity of Variancesby the value of significance 0.05. before doing homogeneity testing, the researcher decides hypothesis in this homogeneity as follow:

a. Ho: If the value of significance > 0.05, it means the data is homogeny.

b. Ha: If the value of significance < 0.05, it means that the data is not homogeny.

Table 3.5
Homogenity Testing

Levene Statistic	df1	df2	Sig.
1.930	1	70	.169

The result shows that the score is 0,169. It means that the result is higher than 0,05 and it proves that the test was homogenious.

I. Data Analysis

Data Analysis is a continuation process from the process of data processing to know how the interpretation data, then data analysis of the result that has been on the level of result of data processing (Prasetyo & Jannah, 2005:184). In this research, the researcher used Independent Sample T test at SPSS 16.0 for windows to know the significant difference of reading achievement of students' between they are taught by using Team Game Tournament and those are taught without using Team Game Tournament. The T-test was taken from the students test result, which are conducted without using team game tournament and using team game tournament.