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CHAPTER III RESEARCH METHOD

A. Research Design

The type of this research is experimental research, precisely quasi-experimental research. According to Creswell (2008, p.295), experimental research is used when the writer wants to establish possible cause and effect between the independent and the dependent variables. Based on Creswell (2008, p.313), quasi experimental research is testing an idea (practice) to determine whether it influences an outcome or dependent variable. Then, Cohen (2007, p.278) also said that this design is commonly used in educational experiment. This research design involved an xperimental group and a control group, both are given a pre-test and a post-test. Experimental group will receive the treatment, however the control group did not.

In conducting this research, the students of Senior High School 9 Pekanbaru received pre-test at the beginning. After that, they would receive the treatment at the middle. At the end, they received a post-test. In this design, the writer used two classes as the sample; a control group and an experimental group. Both groups took a pre-test and post-test. There were two variables, fanfiction as independent variable (X) and students ability in reading comprehension as dependent variable (Y).



B. Location and Time of the Research

This research was conducted of eleventh grade students at Senior High School 9 Pekanbaru on Juni 2017.

C. Subject and Object of The Research

The subject of the study is the eleventh grade students at Senior High School 9 Pekanbaru, and the object of the study is the effect of giving fanfiction as reading material in students' reading comprehension.

D. Population and The Sample of Research

The population of the study was all of the eleventh grade students at Senior High School 9 Pekanbaru. The total population of the eleventh grade students was 347 persons. They were consisted of 9 classes. Considering that this population of the research was bigger, thus the writer took the sample of the population of the research. In this research, the writer used cluster random sampling technique. According to Gay and Airasian (2010, p.123), random sampling is the process of selecting a sample in such a way that all individuals in the defined population have an equal and independent chance of being selected for the sample. Cluster random sampling technique is most useful when the populations are very large or spread out over a wide geographic area. According to Arikunto, if the amount of the population is less than 100 persons it is better to take all of the population, but if the amount of the population is more than 100 persons it is better to take 10-15%, 25%, or more. Cluster sampling randomly select the groups, not individuals (2010, p.129). Based on previous idea, two class

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are generally considered to be a minimally acceptable sample size. In this research, the writer took two of classes as the samples. Class XI IPA 4 was as an experimental class and class XI IPA 6 was as an control class. The class XI IPA 4 consisted of 38 students and the class XI IPA 6 consist of 38 students, so that the total sample of this research was 76 students. The specification of population can be seen in the table III.1 below:

Table III.1 Population of the Eleventh Grade Students at Senior High School 9 Pekanbaru

No.	Class	Number of Students
1.	XI IPA 1	39
2.	XI IPA 2	38
3.	XI IPA 3	39
4.	XI IPA 4	38
5.	XI IPA 5	38
6.	XI IPA 6	38
7.	XI IPS 1	40
8.	XI IPS 2	39
9.	XI IPS 3	38
Total		347 Students

Table III.2 Sample of the Research

No.	Class	Number of Students
1.	XI IPA 4	38
2.	XI IPA 6	38
Total		76 Students

E. Tehcnique of the Data Collection

The data collection of this research would be obtained by using tests (pre and post). According to Brown (2007, p.3), test means that a method of measuring of a person's ability, knowledge or performance in given domain. Then, Brown (2003, p.195) explains several kinds of tests that are appropriate for assessing

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students. The kind of tests are multiple-choice, matching tasks, short answer task, cloze test, open ended question, editing task, picture-cued tasks, and gap-filling task. Thus, in this research the researcher chose multiple choice to measure students' reading comprehension of narrative text.

This type of instrument is chosen because it is practically, and easily administered, and can be scored quickly. Paris (2005, p.16) said that multiple choices are standardized test that will be the inevitable result. The writer decided the multiple choice items as the research instrument because of some considerations; reliability, efficiency, and also rather sophisticatedly.

a. Pre test

According to Creswell (2012), pre-test provides a measure on some attribute or characteristic that you assess for participant in an experiment before they receive the treatment. Pre-test was used to collect the data about students' reading comprehension before giving treatment to the experimental class and before giving no treatment to the control class. The test was given to class XI IPA 4 as experimental class and class XI IPA 6 as control class.

b. Post test

Post-test was given after teaching several times and consisted of 25 items, it was given to both of the classes. Post-test was used to collect the data about the students' reading comprehension after giving treatment to the experimental class and after giving no treatment to the control class. According to Creswell (2012), post-test provides a measure on some attribute or characteristic that you assess for

participant in an experiment after they receive the treatment. The test was given to class XI IPA 4 as experimental class and class XI IPA 6 as control class.

The test consisted of 25 items. The writer adopted the test from related sources. The blue print of the reading comprehension test (pre-test and post-test) is as follows :

Table III.3 Blueprint of the Test

	Question Indicators	Question Number in Pre-Test	Question Number in Post-Test
1	Identify the main idea of text	3, 7, 11, 18, 2	1, 6, 13, 17, 23
2	Identify the generic structure of text	2,6, 12,16, 21	2, 7, 12, 16, 21
3	Identify the meaning of words on text	1, 8, 13, 17,25	3, 10, 11, 20, 22
4	Identify the spesific information of text	4, 10, 15, 19, 23	4, 8, 14, 18, 24
5	Identify the inference of text	5, 9, 14, 20, 24	5, 9, 15, 19, 25
	Total	25	

Research material of this research was taken from *fanfiction.net*. Then, the researcher took 4 types of fanfiction, Movies, Video Games, TV Series and Books.

Based on passed score standard for English subject is 78 at Senior High School 9 Pekanbaru, then according to Arikunto (2009), the classification of the students' score is shown below:

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Table III.4 Classification of Students' Score

Score	Categories
80-100	Very Good
66-79	Good
56-65	Enough
40-55	Less
30-39	Fail

F. Validity and Reliability of Instrument Test
1. Validity

Before carrying out a test, it is necessary to know the validity of instrument. According to Hughes (2003), a test is said to be valid if it measures accurately what it is intended to measure. It means that a test is valid if it really measures what we actually want to be measured.

In this research, the researcher measured the students' reading comprehension. Therefore, to measure the validity of test, the researcher used content validity. Each topic was established by experienced teacher and supervisor. Brown states that content validity is 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 is being measured. In conclusion, the test was given to the students based on the material that they have learned.

The standard value of validity is $r_{item} > r_{table}$. Based on the try out result, then researcher calculated it by using SPSS 22 version. It was determined that all of the items were valid. The result of try out is as follows:

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Table III.5 Item Validity of Try Out

Item Number	r-item	r-table	Result
1	0.503	0.320	Valid
2	0.459	0.320	Valid
3	0.538	0.320	Valid
4	0.550	0.320	Valid
5	0.538	0.320	Valid
6	0.550	0.320	Valid
7	0.398	0.320	Valid
8	0.459	0.320	Valid
9	0.503	0.320	Valid
10	0.361	0.320	Valid
11	0.373	0.320	Valid
12	0.459	0.320	Valid
13	0.332	0.320	Valid
14	0.332	0.320	Valid
15	0.538	0.320	Valid
16	0.459	0.320	Valid
17	0.538	0.320	Valid
18	0.481	0.320	Valid
19	0.459	0.320	Valid
20	0.503	0.320	Valid
21	0.361	0.320	Valid
22	0.373	0.320	Valid
23	0.459	0.320	Valid
24	0.510	0.320	Valid
25	0.459	0.320	Valid

2. Reliability

A test must be reliable as measuring instrument. Reliability is necessary characteristic of any good test to be valid at all a test must first be reliable as a measuring instrument. If the students are given the same test on two different occasions, the test should yield similar results (Gronlund in Brown, 2004). The

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good quality of instrument is determined by the instrument reliability. According to Cohen et.al, (2007), the guidelines for reliability is as follows:

Table III.6 Category of Reliability

No	Reliability	Category
1	>0.90	Very highly reliable
2	0.80-0.90	Highly reliable
3	0.70-0.79	Reliable
4	0.60-0.69	Minimally reliable
5	<0.60	Unacceptably low reliability

In this research, the researcher used software SPSS 22 version to calculate the reliability of test. The result of multiple choice test reliability is as follows:

Table III.7 Reliability Statistics

Cronbach's Alpha	N of Items
.830	25

The reliability of test was 0.830. It is categorized into highly reliable level.

G. Normality and Homogeneity of the Test

1. Normality of the Test

Assessing normality of data is used to describe a symmetrical, bell shaped curve, which has the greatest frequency of scores in the middle, with smaller frequency towards the extremes. Normality can be assessed by obtaining skewness and kurtosis values (Pallant, 2010). Before analyzing the data by using t-test formula, the researcher had to find out the normality test of the data. It was used to know whether the data are normal or not.

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Based on SPSS output, the homogeneity of the test can be seen as follows:

Table III.9 Test of Homogeneity of Variances

Levene Statistic	df1	df2	Sig.
3.056	1	74	.085

Based on the table above, it was found that the value of significance (Sig.) was 0.085. According to Pallant (2010), the data are homogeneous or variant when the value Sig. is higher than 0.05. So, it is clear that Sig. is higher than 0.05 which indicates the homogeneity of the data. The comparison can be stated by $0.085 > 0.05$.

H. Technique of Data Analysis

1. Test Data

In order to find out whether there is or not a significant difference of using fanfiction as reading material on students reading comprehension, data of this research were analyzed statistically. To analyze the students' score in pre-test and post-test, the researcher used the following formula:

$$S = \frac{B}{N} \times 100$$

Where:

S : students' score

N : maximum correct item

B : total correct item

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Then, to find out whether there is difference, the researcher used statistical method that is independent samples t-test formula by using SPSS.22 version. According to Pallant (2010), an independent samples t-test is used when you want to compare the mean score, on some continuous variable, for two different groups of participants. So, the researcher used independent samples t-test to compare the mean score in two different groups; control class and experimental class.

After finding the difference, the researcher found out the effect size of the phenomenon. Pallant (2010) stated that effect size statistics provide an indication of the magnitude of the differences between your groups (not just whether the difference could have occurred by chance). The effect size statistic used in this research is eta squared. For t-test, SPSS does not provide eta squared values. The formula of eta squared is as follows:

$$\eta^2 = \frac{t^2}{t^2 + (n_1 + n_2 - 2)}$$

Where:

n^2 : Eta Square

t : t obtained

n_1 : The number of experimental class

n_2 : The number of control class