CHAPTER III

RESEARCH METHOD

A. Research Design

The researcher employed a correlational research. According to Gay (2012, p.204), correlational research involves collecting data to determine whether, and to what degree, a relationship exists between two or more quantifiable variables. The degree of relation is expressed as a correlation coefficient. If two variables are related, scores within a certain range on one variable are associated with scores within a certain range on the other variable.

The design of this research was an explanatory research design, which consisted of a simple association between two variables. According to Creswell (2012, p.340) an explanatory research design is a correlational design in which the researcher is interested in the extent to which two variables (or more) co-vary, that is, where changes in one variable are reflected in changes in the other. The reason why the researcher choose this type of research was because the researcher wanted to find out whether or not there is a positive correlation between students' comprehension in reading and their reading habit in English books at the first year of SMAN 6 Pekanbaru. The writer describes the relationship of both variables in this following scheme:

$$X \rightarrow Y$$

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The research design was variable X correlated to variable Y, where variable X was reading habit and variable Y was reading comprehension.

B. The Location and Time of the Research

The location of the research was in SMAN 6 Pekanbaru. The time of this research was conducted on March 2017.

C. The Subject and Object of the Research

The subject of this research was the first year students of SMAN 6 Pekanbaru and the object of this research was students' reading habit in English books and their reading comprehension.

D. The Population and Sample of the Research

The population of this research was the first year students of SMAN 6 Pekanbaru. It had 4 classes for science and 2 classes for social. The number of first year students of SMAN 6 Pekanbaru was 211 students. The total of first year students in each class is shown in the table below:

Table III.1
The Population at the First Year of SMAN 6 Pekanbaru 2017/2018

No	Class	Total
1	X IPA 1	36
2	X IPA 2	35
3	X IPA 3	35
4	X IPA 4	35
5	X IPS 1	34
6	X IPS 2	36
	Total	211

In order to take the sample, the writer used simple random sampling due to homogenous population. According to Singh (2006), a simple random sample technique is a technique for choosing the sample in which all the

population get an equal and independent chance to be selected. Gay (2012) stated that the minimal percentages of choosing sample in simple random sampling is 10% of the population. In choosing the sample the researcher took 20% of the population in each class by using lottery. So, the number of the sample for this research was 42 students.

E. The Techniques of Data Collecting

In order to collect some data in this research, the researcher used two techniques of collecting data, they were questionnaires and multiple choices test.

1. Questionnaires

Some instruments which can be used in measuring habit are questionnaire, interview, and observation. Because habit is behavior the researcher used questionnnaire to measure the habit. According to Siregar (2014), questionnaire is technique of collecting information to learn person's attitudes, beliefs, behaviours and characteristics toward certain object.

One of the scales to measure attitude scale is likert scale, in which students will be asked to choose strongly agree, undecided, disagree and strongly disagree. As stated by Siregar (2014,p.50) likert scale is scale used to measure attitude, opinion and perception of individual or group of individual about social phenomena.

In conclusion to measure the students' habit, the simple way used questionnaire, which used likert scale because it dealt with students' habit

and their preference among activities, hobby or other aspects. The questionnaire is a widely used and useful instrument for collecting survey information, providing structured, often numerical data, being able ro be administered without the presence of the researcher, and often being comparatively straightforward to analyze.

The researcher distributed the questionnaires to the sample students which were aimed to know their reading habit score. The validity and reliability of the questionnaires were analyzed to 30 students before the questionaires used scale likert's scale types which measured attitude, opinion, or perception based on the certain object or phenomena. The five alternative answers of likert's scale for the questionnaire are explained as follows:

A: Selalu (Always)

B: Sering (Often)

C: Kadang-kadang (Sometimes)

D: Jarang (Seldom)

E: Tidak pernah (Never)

The questionnaires which were given consisted of some indicators. The indicators were taken from Gaona (2010) about reading habit aspect, which are presented in the following table:

Table III.2
Blue print of Reading Habit

No	Reading Habit (X) Indicators	Item Number
1	The student's reading frequency	1, 2, 3, 4
2	The student's books read	5, 6, 7, 8
3	The student's time spent on academic reading	9, 10, 11, 12
4	The student's time spent on non-academic reading	13, 14, 15, 16
5	The student's motivation in the family environment.	17, 18, 19, 20
6	The student's motivation in the academic environment.	21, 22, 23, 24, 25
	TOTAL	25

2. Test

Brown (2004) stated that a test refers to a method to measure one's ability, knowledge, intelligence, or performance in a supplied area. This technique was to find out how the students' reading comprehension. The researcher collected data for students' reading comprehension by using multiple choices test as instrument for measuring their reading comprehension. The test was an objective test in form of multiple choice test which consisted 25 items. The texts used in the test were desciptive text, narrative text, and recount text item which have been studied by sthe students, the validity and reliability of this test were also analyzed first to 30 students before the test was given to the sample.

The indicators of reading comprehension test were taken from Anderson, which are presented in a table below:

Table III.3
Blue Print of Reading comprehension

No	Reading Comprehension (Y) Indicators	Item Number
1	The students are able to find details and fact in texts.	6, 14, 15, 18, 24
2	The students are able to find main idea in texts.	1, 4, 8, 11, 23
3	The students are able to recognising a writer's pupose in texts.	3, 7, 13, 16, 22
4	The students are able to understand any inferences in texts.	5, 9, 19, 20, 25
5	The students are able to identify the generic structure of texts.	2, 10, 12, 17, 21
	TOTAL	25

F. The Validity and Reliability of Instruments

1. Validity

Gay (2012,p.160) stated that validity refers to the degree to which a test measures what it is supposed to measure and, consequently, permits appropriate interpretation of scores. It means that the instrument is valid if it is able to measure what must be measured.

a. The Validity of the Questionnaire

When we distribute questionnaire we have a purpose to be achieved. To gain our purpose, we should ensure that our measurement tools can measure what they are supposed to measure.

To know whether the data are valid or not, the researcher used SPSS 17.0 windows program. The researcher examined and noted the difference between $r_{observed}$ and r_{table}. Siregar (2014) stated that, the item of questionnaire is valid if $r_{observed} > r_{table}$ at the level significance of 5%, and the item of questionnaire is not valid if $r_o < r_{table}$ at the level significance of 5%.

For N=30 on the significance 0.05 in the table of critical values for Person's Correlation Coefficient, the r_{table} is 0.361. the following table is the comparison of r_o and r_{table} :

Table III.4
The Analysis of Students' Reading Habit in Engllish Books Questionnaire Validity

No	$r_{obtained}$	r_{table}	Category
1	0.735	0.361	Valid
2	0.749	0.361	Valid
3	0.655	0.361	Valid
4	0.512	0.361	Valid
5	-0.034	0.361	Invalid
6	0.197	0.361	Invalid
7	0.544	0.361	Valid
8	0.418	0.361	Valid
9	0.655	0.361	Valid
10	0.372	0.361	Valid
11	0.451	0.361	Valid
12	0. 418	0.361	Valid
13	0. 454	0.361	Valid
14	0.057	0.361	Invalid
15	0. 673	0.361	Valid
16	-0.047	0.361	Invalid
17	0. 669	0.361	Valid
18	0. 555	0.361	Valid
19	0. 655	0.361	Valid
20	0. 544	0.361	Valid
21	0.548	0.361	Valid
22	0.529	0.361	Valid
23	0.572	0.361	Valid
24	0.430	0.361	Valid
25	0.287	0.361	Invalid
26	0.619	0.361	Valid
27	0.673	0.361	Valid
28	0.655	0.361	Valid
29	0.512	0.361	Valid
30	0.735	0.361	Valid

Based on the table III.4 above, it was obtained that 25 items were valid and 5 items were not valid. So, 25 items of students' reading habit questionnaire were utilized in this research.

b. The Validity of the Test

Brown (2004) said that a valid test of reading ability totally measures reading ability itself in which it does not measure previous knowledge in a subject, and some other variables of questionable relevance. Gay (2012) stated that there are four kinds of test validity: content validity, criterion-related validity, construct validity, and consequential validity and they are all interrelated. In this research, the writer used content validity. Content validity was used because the test given was based on materials that the students learned. According to Brown (2004), if all test items cover all of learning objectives (indicators) the test is content valid.

The researcher tried out the test. According to Arikunto (2009), the standard level of difficulty used is <0.30 and >0.70. it means that an item is accepted if the level of difficulty is between 0.30-0.70 and it is rejected if the level of difficulty is below 0.30 (the item is too difficult) and over 0.70 (the item is too easy). Arikunto (2009) stated the formula of item difficulty as drawn below:

$$P = \frac{B}{JS}$$

Where :

P   : index of difficulty or facility value
B   : the number of correct answer
JS : the number of examiner or students taking the test

The formula above was used to find out the difficulties of each item test that researcher gave to respondents. The items that did

not reach the standard level of difficulty were excluded from the test and they changed with the new items that were apprprieate. Then, the proportion of correct answer was represented by P, whereas the proportion of incorrect answer was represented by Q. Based on The analysis of test validity to the 25 items, it showed that all of the 25 items were valid. The analysis can be seen in following table:

Table III.5
The students are able to find details and fact in texts.

Variable	Find details and fact in texts					N
Item	6	14	15	18	24	
Correct answer	17	20	18	19	17	30
P	0.57	0.67	0.6	0.63	0.57	
Q	0.43	0.33	0.4	0.37	0.43	

Based on the table III.5 above, there were 5 items (6, 14, 15, 18, and 24). Item 6 gained 17 correct answers and its proportion was 0.57, item 14 gained 20 correct answers and its proportion was 0.67, item 15 gained 18 correct answers and its proportion was 0.6, item 18 gained 19 correct answers and its proportion was 0.63, and item 24 gained 17 correct answers and its proportion was 0.57. The descriptions show that there was no item having index of difficulty which was lower than 0.3 and higher than 0.7. It could be said that the items of finding details and fact in texts were accepted.

Table III.6
The students are able to find main idea in texts.

Variable	find main idea in texts					N
Item	1	4	8	11	23	
Correct answer	19	20	19	19	15	30
P	0.63	0.67	0.63	0.63	0.5	
Q	0.37	0.33	0.37	0.37	05	

By analyzing table III.6, there were 5 items (1, 4, 8, 11, and 23). Item 1 gained 19 correct answers and its proportion was 0.63, item 4 gained 20 correct answers and its proportion was 0.67, item 8 gained 19 correct answers and its proportion was 0.63, item 11 gained 19 correct answers and its proportion was 0.63, and item 23 gained 15 correct answers and its proportion was 0.5. Since there was no item having index of difficulty which was lower than 0.3 and higher than 0.7; It could be said that the items of finding main idea in texts were valid to be used.

Table III.7
The students are able to recognising a writer's pupose in texts

Variable	Recognising a writer's pupose in texts					N
Item	3	7	13	16	22	
Correct answer	20	20	20	16	20	30
P	0.67	0.67	0.67	0.53	0.67	
Q	0.33	0.33	0.33	0.47	0.33	

By analyzing table III.7, there were 5 items (3, 7, 13, 16, and 22). Item 3 gained 20 correct answers and its proportion was 0.67, item 7 gained 20 correct answers and its proportion was 0.67, item 13 gained 20 correct answers and its proportion was 0.67, item 16 gained 16 correct answers and its proportion was 0.33, and item 22 gained 20 correct answers and its proportion was 0.67. Since there was no item having index of difficulty which was lower than 0.3 and higher than 0.7; it means that the items of recognising a writer's pupose in texts were valid to be used.

Table III.8
The students are able to understand any inferences in texts.

Variable	Understand any inferences in texts					N
Item	5	9	19	20	25	
Correct answer	16	19	17	18	16	30
P	0.53	0.63	0.56	0.6	0.53	
Q	0.47	0.37	0.44	0.4	0.47	

By analyzing table III.8, there were 5 items (5, 9, 19, 20, and 25). Item 5 gained 16 correct answers and its proportion was 0.53, item 9 gained 19 correct answers and its proportion was 0.63, item 19 gained 17 correct answers and its proportion was 0.56, item 20 gained 18 correct answers and its proportion was 0.6, and item 25 gained 16 correct answers and its proportion was 0.53. Since there was no item having index of difficulty which was lower than 0.3 and higher than 0.7; it means that the items of recognising a writer's pupose in texts were valid to be used.

Table III.19
The students are able to identify the generic structure of texts.

Variable	Identify the generic structure of texts					N
Item	2	10	12	17	21	
Correct answer	16	17	18	19	18	30
P	0.53	0.56	0.6	0.63	0.6	
Q	0.47	0.44	0.4	0.37	0.4	

For the last indicator based on table III.9, there were 5 items (2, 10, 12, 17, and 21). Item 2 gained 16 correct answers and its proportion was 0.53, item 10 gained 17 correct answers and its proportion was 0.56, item 12 gained 18 correct answers and its proportion was 0.6, item 17 gained 19 correct answers and its proportion was 0.63, and item 21 gained 18 correct answers and its proportion was 0.6. Since there was no item having index of

difficulty which was lower than 0.3 and higher than 0.7; it means that the items of identifing the generic structure of texts were valid to be used.

2. Reliability

Brown (2004) said that reliability is a degree in which the result of measurement would be similar as we repeat it to the same students on two different occasions. To sum up, the key of reliability is if an instrument can be interpreted consistently in two different situations. Siregar (2014) stated that reliability test can be done by having external and internal ways. In this research, the researcher used internal consistency in which the the researcher tried out the questionnaire once and analyzed each item by using cronbach alpha . According to Siregar (2014), cronbach alpha is the method that used for evaluate internal consistency.

The following table is the level of internal consistency of Cronbach Alpha by Louis Cohen (2007, p.506):

Table III. 10
A Commonly Accepted Rule of Thumb for Describing Internal Consitency by Using Cronbach Alpha

Cronbach Alpha	Internal Consistency
>0.90	Very highly reliable
0.80 – 0.90	Highly reliable
0.70 – 0.79	Reliable
0.60 – 0.69	Marginally/ minimally reliable
<0.60	Unacceptably low reliability

a. **Reliability of Questionnaire**

To obtain the reliablity of the questionnaire given, the researcher used SPSS 17.0 program to find out whether the questionnaire was reliable or not.

Table III. 11
Cronbach Alpha Table Reliability Statistic of Students' Reading Habit Questionnaire

Cronbach's Alpha	N of Items
.882	30

Based on the table III.11 above, it was found that the value of Cronbach's Alpha was 0.882. The value of internal consistency was $0.883 \geq 0.80$, so the reliablity of questionnaire was highly reliable.

b. **Reliability of the Test**

According to Gay (2012), reliability is about consistency of the scores produced. They also pointed out that reliability is very important to judge the suitability of a test. It is clear that reliability is to measure the consistency and the quality of the test score. To obtain the reliablity of the test given, the researcher used SPSS 17.0 program to find out whether the test was reliable or not. The test reliability can be analyzed below:

Table III. 12
Cronbach Alpha Table Reliability Statistic of Students' Reading Comprehension Multiple Choice Test

Cronbach's Alpha	N of Items
.702	25

From the table III.12, it was obtained that the value of Cronbach's Alpha was 0.702. The value of internal consistency was $0.702 \geq 0.70$, so the reliability of questionnaire was reliable.

G. The Techniques of The Data Analysis

To analyze the data, the writer used Pearson Product Moment Correlation on SPSS 17.0 program. According to Hartono (2008), product moment correlation technique is used when the two types of the data correlated are interval. Besides, it is used to find out the relationship between two parametric variables and linear correlation between students' reading habit in English books and their reading comprehension. In analyzing the data of students' reading habit in Engllish books and their reading comprehension, the researcher analyzed it statically by using SPSS 17.0 program.

In this research, the researcher wanted to find positive linear relationship. Singh (2006) also pointed out that correlation between two or more quantifiable variables could be positive or negative. He said that it is positive relationship when an increase (or decrease) of a variable is followed by an increase (or decrease) of the other.

Sudjono (2008) pointed out the formula to analyze the percentage of students' reading habit as follows:

$$P = \frac{f}{N} \times 100 \%$$

Where:

P = Number of percentage
F = Obtained frequency
N = Number of frequency/sample

The formula to analyze the students' reading comprehension as follows:

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

Where:

S = Indiviedula score
R = Right answer
N = Number of items

Then, to find out wether there is a correlation between students' reading habit and their reading comprehension, the Pearson Product-Moment Correlation from SPSS 17.0 windows program was used. Cronk (2006) stated that H_o is accepted if sig ≥ α. In case, α value is 0.001

Statistically the Hypotheses are:

H_o is accepted if sig ≥ α : there is no significant correlation between students' reading habit and their reading comprehension.

H_α is accepted if sig ≤ α : there is a significant correlation between students' reading habit and their reading comprehension.

Then, to determine the level of correlation between the two variables, the following categories from sugiyono (2015, p.231) were used:

Table III.13
The Interpretation of Correlation Coefficient

No	Coefficient Interval	Level of Correlation
1	0.00 – 0.199	Very Low
2	0.20 – 0.399	Low
3	0.40 – 0.599	Medium
4	0.60 – 0.799	Strong
5	0.800 – 1.00	Very Strong