

CHAPTER III

RESEARCH METHODOLOGY

A. Research Design

The design of this research is correlational research which consists of two variables. The first is the prior knowledge as the independent variable (X) and the second is listening comprehension as the dependent variable (Y).

According to Arikunto (2006:270-271), correlational design is procedures in quantitative research in which investigators measure the degree of association (or relation) between two or more variables using the statistical procedure of correlational analysis. This degree of association expresses as a number, indicates whether the two variables are related or whether one can predict another. Correlational studies provide a numerical estimate of how related two variables. Clearly, the more of two variables are related, the more accurate are predictions based on the relationship. Rarely, there are two variables perfectly uncorrelated, but many are sufficiently related to permit useful predictions.

B. The Location and Time of The Research

This research was conducted at SMAN 5. It is located on Jl. Bawal, Pekanbaru. The time of this research was conducted on May 2017 in academic year 2016/2017.

C. The Subject and Object of The Research

The subject of the research was the second year students at SMAN 5 Pekanbaru and the object was to find out the significant correlation between prior knowledge and listening comprehension.

D. The Population and Sample of Research

Table III.1

The Population of the Second Year Students at SMAN 5 Pekanbaru

No.	Class	Total
1.	XI IPA 1	42
2.	XI IPA 2	43
3.	XI IPA 3	42
4.	XI IPA 4	41
5.	XI IPA 5	42
6.	XI IPA 6	42
7.	XI IPS 1	43
8.	XI IPS 2	42
9.	XI IPS 3	42
10.	XI IPS 4	41
Total		420

To choose the sample, the researcher applied simple random sampling technique by using lottery method. Simple random sampling technique is a sampling procedure for which each possible sample of a given size is equally likely to be the one obtained.

Furthermore, the researcher took 10% of the total population as sample.

Therefore, the samples were 42 students. As Arikunto (2006:134) said that if population is less than 100 respondents, we can take all of, but if more than 100 respondents, we can take 10%, 15%, 20%, 25% or more than that.

E. Techniques of Data Collection

In order to collect some data in this research, the researcher used test. This technique was used to find out the students' prior knowledge and students' score in listening comprehension. Moreover, the researcher made 20 questions with multiple choice test.

Table III.2
The Blueprint of Prior Knowledge Test

No.	Indicators	Item Number
1.	The students find the appropriate word from context	2, 3, 11, 14, 19
2.	The students identify the meaning of the word	5, 12, 15, 18, 20
3.	The students have an appropriate knowledge to the listening task given	1, 4, 7, 8, 9
4.	The students identify the correct grammatical used related to the content in the listening task.	6, 11, 13, 16, 17
Total		20

Table III.3
The Blueprint of Listening Comprehension Test

No.	Indicators	Item Number
1.	Students identify the certain information of the narrative text listened	6,7,8,16,20
2.	Students identify the event in the narrative text listened	9,10,17,18,19
3.	Students identify the meaning of expressions of congratulating someone.	1,2,3,4,5
4.	Students respond to the expressions of anger	11,12,13,14,15
Total		20

Hak Cipta Dilindungi Undang-Undang

1. Dilarang mengutip sebagian atau seluruh karya tulis ini tanpa mencantumkan dan menyebutkan sumber:
 - a. Pengutipan hanya untuk kepentingan pendidikan, penelitian, penulisan karya ilmiah, penyusunan laporan, penulisan kritik atau tinjauan suatu masalah.
 - b. Pengutipan tidak merugikan kepentingan yang wajar UIN Suska Riau.
2. Dilarang mengumumkan dan memperbanyak sebagian atau seluruh karya tulis ini dalam bentuk apapun tanpa izin UIN Suska Riau.

After the students did the test, the researcher then took total score from the result of the test. The classification of the students' score was as follows (Arikunto:2011:245):

Table III.4
The Classification of Students' Score

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

F. Techniques of Data Analysis

In order to find out whether there was a significant correlation between students' prior knowledge and listening comprehension or not, the data were analyzed statistically. There was a significant correlation or there was no significant correlation between two or more variables that can be analyzed by using product moment correlation (Arikunto: 2006:274). H_0 is accepted if the significance 2-tailed value is bigger than α ($\text{sig-t} > \alpha$). In this case, α value is 0.05.

Meanwhile, in order to get easy in analyzing the data, the writer used SPSS 17.0 program for Windows. The product moment correlation coefficient was obtained by considering the degree of freedom ($df = N - nr$; (N = number of sample, nr = number of variable).

In addition, the procedure of processing the data by using SPSS 17.0 program as follows:

1. Open SPSS 17.0 program

Hak Cipta Dilindungi Undang-Undang

1. Diarangi mengutip sebagian atau seluruh karya tulis ini tanpa mencantumkan dan menyebutkan sumber:

- a. Pengutipan hanya untuk kepentingan pendidikan, penelitian, penulisan karya ilmiah, penyusunan laporan, penulisan kritik atau tinjauan suatu masalah.
- b. Pengutipan tidak merugikan kepentingan yang wajar UIN Suska Riau.

2. Diarangi mengumumkan dan memperbanyak sebagian atau seluruh karya tulis ini dalam bentuk apapun tanpa izin UIN Suska Riau.

2. Click *variable view* on SPSS data editor.
 - a. On column *name*, for the first row is Respondent, for the second row is X, and for the third row is Y.
 - b. On column *type*, for the first row change from numeric to string.
 - c. On column *label*, for the second row is prior knowledge and for the third row is students' listening comprehension.
3. Next, click *data view* in the left corner on SPSS data editor. Input the respondent in column *respondent*, scores of prior knowledge in column X, and scores of students' listening comprehension in column Y.
4. Then, to find the correlation between the score; click *analyze* *correlate bivariate*
5. From *bivariate correlaton* input X and Y to *variable*
6. Click *Pearson* on *correlation coefficient*
7. Choose *two tailed* on *test of significance*
8. Click OK.

Statistically the hyphotheses are:

$$H_a : r_o > r_{table}$$

$$H_o : r_o \leq r_{table}$$

H_a is accepted if $r_o > r_{table}$ or there is significant correlation between the prior knowledge and listening comprehension.

H_o is accepted if $r_o \leq r_{table}$ or there is no significant correlation between prior knowledge and listening comprehension.

Hak Cipta Dilindungi Undang-Undang

1. Dilarang mengutip sebagian atau seluruh karya tulis ini tanpa mencantumkan dan menyebutkan sumber:

- Pengutipan hanya untuk kepentingan pendidikan, penelitian, penulisan karya ilmiah, penyusunan laporan, penulisan kritik atau tinjauan suatu masalah.
- Pengutipan tidak merugikan kepentingan yang wajar UIN Suska Riau.

2. Dilarang mengumumkan dan memperbanyak sebagian atau seluruh karya tulis ini dalam bentuk apapun tanpa izin UIN Suska Riau.

G. Validity and Reliability of Instrument

1. Validity of Prior Knowledge Test

Arikunto (2011: 58-59) stated that validity is the individual's score from an instrument that makes sense, meaningful, enables you, as the researcher, to draw good conclusions from the sample you are studying to the population. It means that validity is the extent to which inferences made from assessment results are appropriate, meaningful, and useful in terms of the purpose of the assessment. According to Brown (2003: 22), there are five kinds of validity. They are content validity, criterion-related validity, consequential validity, face validity, and construct validity . An instrument is valid if it is able to measure what must be measured.

Furthermore, in this research, the researcher used construct validity to measure students' prior knowledge. Construct validity is any theory, hypothesis, or models that attempts to explain observed phenomena. Based on the try out result, it was determined that all of the items were valid. The result of try out is as follows:

Table III.5
The Analysis of Prior Knowledge Test Validity

Item Number	r-item	r-table	Result
1	0.36	0.30	Valid
2	0.38	0.30	Valid
3	0.45	0.30	Valid
4	0.49	0.30	Valid
5	0.56	0.30	Valid
6	0.33	0.30	Valid
7	0.38	0.30	Valid
8	0.52	0.30	Valid
9	0.33	0.30	Valid
10	0.33	0.30	Valid

Hak Cipta Dilindungi Undang-Undang

1. Diarang mengutip sebagian atau seluruh karya tulis ini tanpa mencantumkan dan menyebutkan sumber:
 - a. Pengutipan hanya untuk kepentingan pendidikan, penelitian, penulisan karya ilmiah, penyusunan laporan, penulisan kritik atau tinjauan suatu masalah.
 - b. Pengutipan tidak merugikan kepentingan yang wajar UIN Suska Riau.
2. Diarang mengumumkan dan memperbanyak sebagian atau seluruh karya tulis ini dalam bentuk apapun tanpa izin UIN Suska Riau.

11	0.47	0.30	Valid
12	0.55	0.30	Valid
13	0.52	0.30	Valid
14	0.48	0.30	Valid
15	0.32	0.30	Valid
16	0.37	0.30	Valid
17	0.46	0.30	Valid
18	0.51	0.30	Valid
19	0.37	0.30	Valid
20	0.43	0.30	Valid

Based on the table, the researcher concluded that the result of instrument validity to the 20 items of prior knowledge test were valid. Then, the researcher took there were 20 items used in this research.

2. Validity of Listening Comprehension Test

In this research, the researcher used content validity to measure the students' listening comprehension. According to Brown (2003: 22) content validity is partly a matter of determining if the content that the instruments contains is an adequate sample of the domain of content it is supposed to represent. Test has content validity if the test is appropriate with the lesson that is taught in the class. Thus, the test was given based on material studied by the students. The material of the test was taken from the syllabus of the second year students at State Senior High School 5 Pekanbaru. Based on the try out result, it was determined that all of the items were valid. The result of try out is as follows:

Table III.6

The Analysis of Listening Comprehension Test Validity

Item Number	r-item	r-table	Result	Item Number	r-item	r-table	Result
1	0.54	0.30	Valid	11	0.59	0.30	Valid
2	0.48	0.30	Valid	12	0.59	0.30	Valid
3	0.45	0.30	Valid	13	0.55	0.30	Valid
4	0.53	0.30	Valid	14	0.58	0.30	Valid
5	0.58	0.30	Valid	15	0.39	0.30	Valid
6	0.50	0.30	Valid	16	0.48	0.30	Valid
7	0.52	0.30	Valid	17	0.41	0.30	Valid
8	0.51	0.30	Valid	18	0.40	0.30	Valid
9	0.45	0.30	Valid	19	0.34	0.30	Valid
10	0.54	0.30	Valid	20	0.32	0.30	Valid

Based on the table, the researcher concluded that the result of instrument validity to the 20 items of listening comprehension test were valid. Then, the researcher took there were 20 items used in this research.

3. Reliability of prior knowledge test

Reliability is the degree to which a test consistently measures whatever it is measuring (Brown,2003:19). In accordance, Brown (2003:20) said that a reliable test is consistent and dependable. This research is internal consistency reliability. According to Sugiyono (2010:174), internal consistency reliability is the instrument administered once, using one version of the instrument and each participant in the study completes the instrument. The following table is the level of internal consistency of Cronbach Alpha (Arikunto: 2006:115)

Hak Cipta Dilindungi Undang-Undang

1. Dilarang mengutip sebagian atau seluruh karya tulis ini tanpa mencantumkan dan menyebutkan sumber:
 - a. Pengutipan hanya untuk kepentingan pendidikan, penelitian, penulisan karya ilmiah, penyusunan laporan, penulisan kritik atau tinjauan suatu masalah.
 - b. Pengutipan tidak merugikan kepentingan yang wajar UIN Suska Riau.
2. Dilarang mengumumkan dan memperbanyak sebagian atau seluruh karya tulis ini dalam bentuk apapun tanpa izin UIN Suska Riau.

Table III.7
A Commonly Accepted Rule of Thumb for Describing Internal Consistency 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	Minimally reliable
<0,60	Unacceptably low reliability

To obtain the reliability of the prior knowledge test, the researcher used SPSS 17.0 program to find out whether the test was reliable or not.

Table III.8
Reliability Statistics of Prior Knowledge Test

Cronbach's Alpha	N of Items
.809	20

From the table above, it can be seen that the value of cronbach's alpha is 0.809. It means that the items were reliable, where the value of internal consistency was $0.90 > 0.809$, so the reliability of the test was high.

4. Reliability of listening comprehension test

Table III.9
Reliability Statistics of Listening Comprehension Test

Cronbach's Alpha	N of Items
.874	20

From the table above, it could be seen that the value of cronbach's alpha was 0.874. It indicated that the items were reliable, where the value of internal consistency was $0.90 > 0.874 > 0.80$, so the reliability of the test was high.

Hak Cipta Dilindungi Undang-Undang

1. Dilarang mengutip sebagian atau seluruh karya tulis ini tanpa mencantumkan dan menyebutkan sumber:
 - a. Pengutipan hanya untuk kepentingan pendidikan, penelitian, penulisan karya ilmiah, penyusunan laporan, penulisan kritik atau tinjauan suatu masalah.
 - b. Pengutipan tidak merugikan kepentingan yang wajar UIN Suska Riau.
2. Dilarang mengumumkan dan memperbanyak sebagian atau seluruh karya tulis ini dalam bentuk apapun tanpa izin UIN Suska Riau.