CHAPTER III

METHOD OF THE RESEARCH

A. Research Design

This research is descriptive research design. Accoding to Gay (2000) descriptive research is survey research. This research are involves collecting data in order to answer questions about opinion of people about some topic or issue. Cresswel (2012) also stated that survey research design are procedure in quantitative research because researcher collecting the data using questionnaire which investigators survey to a sample to describe the attitude, opinion, behavior, or characteristic of population.

B. Location and Time of the Research

The research was conducted at State Senior High School 12 Pekanbaru. It is located in Garuda Sakti Street km. 3, Panam. The research was conducted on April 2018.

C. The Subject and Object of this Research

The subject of this research was the Second grade students of State Senior High School 12 Pekanbaru in 2017-2018 academic years, while the object of this research was the Students' Learning Styles Preferences in English Language.

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D. The Population and Sample

1. Population of the Research

Population is a group of individuals who have the same characteristic (Creswell, 2012).The population of this research is all second year students of State Senior High School 12 Pekanbaru in 2017/2018 academic year. The students were divided into two programs; science and social. There were 5 classes for the science with the total number of students was 196 students, while there were 6 classes for the social with the total number was 218 students. Thus, there were eleven classes consisting of 414 students as the total population.

Table III.1
The Population of the Research

No	Classes	Population Students	Total Students
1	XI MIPA 1	40	
2	XI MIPA 2	39	
3	XI MIPA 3	40	196
4	XI MIPA 4	40	
5	XI MIPA 5	37	
6	XI IPS 1	38	
7	XI IPS 2	34	
8	XI IPS 3	38	218
9	XI IPS 4	36	
10	XI IPS 5	36	
11	XI IPS 6	36	
Total		**414**	

(School Administration, 2018)

2. **Sample of the Research**

The sample of this research is 83 students. Cresswell (2012) stated that sample is a subgroup of the target population that the researcher plans to study for generalizing about the target population. In other words, the researcher can select a sample of individuals who are representative of the entire population.

In this research, the researcher used systematic sampling as the technique to choose the sample of population. The Cresswell (2012) said that systematic sampling is the procedure where the researcher chooses every nth individual or site in the population until reaches the desired sample size. This procedure is not as a precise and rigorous as using the random numbers table, but it may be more convenient because it does not require a random numbers table.

Systematic sampling is a part of random sampling. To take sample by using systematic sampling, the researcher have to take number of students in odd or even by using formula in ordinal ways. The researcher takes the samples of the research based on the following formula:

$$Number\ of\ Sample = \frac{Total\ Population}{Total\ Sample}$$

(SutrisnoHadi, 2016).

From the formula above, the researcher have list of student's number that become a sample of this research that present below:

Table III. 2
The Sample of the Research

IPA	IPS
7, 12, 17, 22, 27, 32, 37, 42, 47, 52, 57, 62, 67, 72, 77, 82, 87, 92, 97, 102, 107, 112, 117, 122, 127, 132, 137, 142, 147, 152, 157, 162, 167, 172, 177, 182, 187, 192, 197, 202	207, 212, 217, 222, 227, 232, 237, 242, 247, 252, 257, 262, 267, 272, 277, 282, 287, 292, 297, 302, 307, 312, 317, 322, 327, 332, 227, 282, 287, 292, 297, 302, 307, 312, 317, 322, 327, 332, 337, 342, 347, 352, 357, 362, 367, 372, 377, 382, 387, 392, 397, 402, 407, 412, 417
40	43

The researcher takes 83 students as the sample because the total population of this research is more than 100 students. Arikunto (2006) stated that if the population is more than 100, the researcher should take the sample in the range of 10-15%, 20-25%, or more. This is why the researcher tough 20% students that means 83 students as the sample from the total population (414 students).

E. The Technique of Data Collection

1. Questionnaire of Learning Styles Preferences

The reason for choosing questionnaire as the instrument of this research was because the questionnaire can gather information from special populations of people who have firsthand knowledge and experience and because it is usually more cost-effective than other comparable techniques such as personal interview. Wilson and McLean (in Cohen, *et al.,* 2000) stated that questionnaire is a widely used and useful instrument for collecting survey information, providing structured, often

numerical data, and being able to be administer without the presence of the researcher, and often being comparatively straightforward to analyze.

In this research, the researcher is used *Learning Style Inventory* questionnaire from Leonard Enid (2005) to indicate the students learning styles preferences. There are 30 items of questionnaire that each number indicated kinds of learning style. The number of question will determine the preferred learning style, and it present below:

Visual Style : Questions 1, 4, 9, 10, 13, 16, 19, 24, 25, 28

Auditory Style : Questions 2, 5, 8, 11, 14, 18, 20, 23, 26, 29

Kinesthetic Style : Questions 3, 6, 7, 12, 15, 17, 21, 22, 27, 30

The highest score indicated the preferred learning style. If the researcher find a high score in more than one area, the researcher are using additional modalities. Remember that there are no wrong answers to this inventory. Everyone is an individual and has her own style of learning.

F. Validity and Reliability of Instrument

1. Validity of Questionnaire

Before the questionnaire was given to the sample of this research, they were tried out to the second grade students of State Senior High School 12 Pekanbaru. The purpose of the try out is to obtain validity and reliability of the questionnaire. Validity is the most critical criterion and indicates the degree to which an instrument measures what it is supposed to measure (Kothari, 2004). In other words, validity is the extent to which

differences found with a measuring instrument reflect true differences among those being tested.

Gay (2012) mentioned that there kinds of validity. They are content validity, criterion-related validity, and construct validity. In this research, the researcher used construct validity to know the validity of questionnaire. According to Gay (2012), construct validity is the validity that determined the concept of instrument being measured. This validity was used for determining the characteristics of the subjects such as an intelligence test, a motivation test, an interest test, and skill test of persons.

To know whether the data is valid, the questionnaire was tried out to 43 students and calculated by using SPSS 17.0 version. The researcher examined and noted the differences between r_{item} and r_{table}. Siregar (2014) stated that the item is valid if the value of r_{items} higher than r_{table} at significance level of 5%. The data was consulted with r_{table} at significance level of 5% ($\alpha = alpha = 0.05$). The researcher took N 43, so r_{table} acquired was 0.2483 (See in appendix r_{table}).

The result of questionnaire indicated that all items were valid. It can be seen as follows:

Table III. 3
The Analysis of Learning Styles Test Validity

Item Number	r-item	r-table	Result	Item Number	r-item	r-table	result
1.	0.32	0.248	Valid	16.	0.54	0.248	valid
2.	0.31	0.248	Valid	17.	0.48	0.248	valid
3.	0.42	0.248	Valid	18.	0.51	0.248	valid
4.	0.47	0.248	Valid	19.	0.45	0.248	valid
5.	0.31	0.248	Valid	20.	0.51	0.248	valid
6.	0.40	0.248	Valid	21.	0.31	0.248	valid
7.	0.49	0.248	Valid	22.	0.52	0.248	valid
8.	0.52	0.248	Valid	23.	0.34	0.248	valid
9.	0.38	0.248	Valid	24.	0.31	0.248	valid
10.	0.42	0.248	Valid	25.	0.55	0.248	valid
11.	0.75	0.248	Valid	26.	0.63	0.248	valid
12.	0.40	0.248	Valid	27.	0.31	0.248	valid
13.	0.42	0.248	Valid	28.	0.33	0.248	valid
14.	0.39	0.248	Valid	29.	0.64	0.248	valid
15.	0.58	0.248	Valid	30.	0.50	0.248	valid

The table above shows the validity of students' learning styles preferences questionnaire try out. Based on the table, all items are valid because $r_{item} > r_{table}$. Because all items are valid, the researcher used all the items to be tested to the sample.

2. **Reliability of Learning Styles Questionnaire**

Reliability is an accuracy of measurement in good test. Gay (2012) argued that reliability is the degree to which a test consistently measures whatever it is measuring. Creswell (2012) also stated that reliability is the scores from an instrument that are stable and consistent. The instrument need to be analyzed the consistency each time and condition from the subjects research.

Siregar (2004) stated that reliability test can be done by having external and internal ways. In this research, the researcher used internal

consistency in which the researcher used split-half method to try out the questionnaire and analyzed each item by using cronbach alpha technique in SPSS 17.0. Gay (2012) stated that split-half method is part of internal reliability which is the test is split into two parts and then both parts given to one group of students in the same time. Split-half is a measure of internal consistency in how well the components contribute to the construct that is being measured. According to Cohen (2007), the categories level of reliability is present below:

Table III. 4
Level of Reliability

No	Reliability	Level of Reliability
1.	>0.90	Very High Reliable
2.	0.80 - 0.90	High Reliable
3.	0.70 – 0.79	Reliable
4.	0.60 – 0.69	Minimum Reliable
5.	<40	Unacceptable Reliable

To find out the reliability of the questionnaire, the researcher used *Cronbach's alpha* formula and test through SPSS 17.00.The following table is the reliability test of students' learning styles preferences questionnaire.

Table III. 5
Reliability Statistic of Students' Learning Styles

Cronbach's Alpha	N of Items
.872	30

From the table of reliability statistic above, the score of cronbach's alpha in this research was 0.872. It means that the score is in range 0.80 – 0.90 which is the level of reliability was in high reliable.

G. The Technique of Data Analysis

In order to find out the students' learning styles preferences, the data was analyzed by using measures of central tendency (MCT) in SPSS 17.0. Clark (in Archana, 2010) measures of central tendency or average is an attempt to find one single figure to describe whole of figure. Measures of central tendency define arithmetic *Mean, Median, and Mode*. The analysis of this study using measures of central tendency where the researcher presents frequency distributions of mean, median, and mode as well as the variation and the standard deviation results analysis. All the analysis was presented with diagrams, chart, and tables.