

Hak Cipta Diindungi Undang-Undang

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CHAPTER III

METHOD OF THE RESEARCH

A. Research Design

This research was a quantitative research. It used comparative research. According to Gay (1990), comparative study is explanation of similarities and differences, but comparative tends to emphasize the differences or contrast rather than the similarities. It means that the researcher should focus on finding the differences to sets of the data. In short, comparative study focus on differences between groups.

This research only involves two independent variables which are natural science symbolized “X1”, social science symbolized “X2”, and student’s reading comprehension symbolized “Y” as dependent variable. The comparative research is appropriate to find out the comparison of students’ reading comprehension in descriptive text between natural science and social science students at State Senior High School 1 Tapung.

B. Location and Time of The Research

The location of this research was at State Senior High School 1 Tapung. It is located on Petapahan-Minas street KM.93 Indrasakti, Tapung, Kampar. This research was conducted on April 2018.

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C. Subject and Object of The Research

The subject of this research was the tenth grade of State Senior High School 1 Tapung. Meanwhile the object of this research was a comparison between natural science and social science students on reading comprehension of descriptive text.

D. Population and Sample

1. Population

Syafi'i (2015) said that population of the research refers to total number of subjects from the data sources. Meanwhile, sample refers to the subject which is chosen and determined as the sources of data. In this case, population of the research was all of the tenth grade students in State Senior High School 1 Tapung. There were 3 classes of natural science and 4 classes of social science which consist of 29-33 students for each class. Total number of natural science was 96 students while the total number of social science students was 124 students. Thus, the total number of the population was 210 students. The population of this research was homogenous in which students were taught by the same teacher and same material.

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Table III.1
The Total Population of The Tenth Grade At State Senior High School 1 Tapung

| No | Classes | Total |
|--------------|----------|------------|
| 1. | X MIPA 1 | 32 |
| 2. | X MIPA 2 | 31 |
| 3. | X MIPA 3 | 33 |
| 4. | X SOS 1 | 31 |
| 5. | X SOS 2 | 32 |
| 6. | X SOS 3 | 32 |
| 7. | X SOS 4 | 29 |
| TOTAL | | 210 |

Source: State Senior High School 1 Tapung Office

2. Sample

Sample is some of the populations that have the same characteristics as the population. According to Arikunto (2006), if the subject is less than 100 people should be taken altogether, if the subject is large or more than 100 people can be taken 10-15% or 20-25% or more.

In this research, the researcher used proportional stratified random sampling. Gay (2012) explains that proportional stratified sampling is how to select a sample in which the researcher identify subgroups. They are natural science and social science students group. In State Senior High School 1 Tapung, the total population was 210 students. The sample taken 20% of the population. Thus, the sample total was $20\% \times 210 \text{ students} = 42 \text{ students}$.

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Table III. 2
Sample of the Research

| No | Classes | Total | Percent | Sample |
|--------------|----------|------------|------------|-----------|
| 1. | X MIPA 1 | 32 | 20% | 6 |
| 2. | X MIPA 2 | 31 | 20% | 6 |
| 3. | X MIPA 3 | 33 | 20% | 7 |
| 4. | X SOS 1 | 31 | 20% | 6 |
| 5. | X SOS 2 | 32 | 20% | 6 |
| 6. | X SOS 3 | 32 | 20% | 6 |
| 7. | X SOS 4 | 29 | 20% | 5 |
| Total | | 210 | 20% | 42 |

Based on the table above, the researcher took the sample for natural science is 19 students, and for social science is 23 students. Thus the total sample of this research is 42 students. In this research, the researcher took the students using lottery. The researcher made the paper that contain the sign, and then selected them randomly. The students got paper contain sign, automatically that students were the sample in this research.

E. Technique of Data Collection

To collect the data, the researcher used one kind of instruments for this research. The instrument as follows:

1. Test

Brown (2003) said that a test is a method of measuring a person's ability, knowledge, or performance in a given domain. Meanwhile, Syafi'i (2015) believed that the various data will be derived from a test such as ability, proficiency, comprehension or performance. As what focus in this research, the test was about reading

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comprehension on descriptive text. 25 questions of comprehension descriptive text were created based on five indicators as what have been explained in the operational concept.

This technique used to find out the students' score in reading comprehension of descriptive text based on difference major program. They were natural science and social science major programs. The items of test adopted from primary books based on syllabus curriculum 2013 that used in this school and it supported from others relevant sources that were designed by the writer itself. In multiple choices, the writer provided four possibility answers included A, B, C, and D for each item and samples chose one correct answer only. Before the items used to get the real data, it was tried out to the different samples first. The purpose is to get information about validity and reliability of the test.

Table III. 3
The Blueprint of the Test

| No | Indicators of items | Number of items | Items number |
|----|--|-----------------|-------------------|
| 1. | Find the main idea of descriptive text | 5 | 1, 6, 11, 16, 21 |
| 2. | Find the factual information of descriptive text | 5 | 2, 7, 12, 17, 22 |
| 3. | Find the meaning of vocabulary of descriptive text | 5 | 3, 8, 13, 18, 23 |
| 4. | Identify the reference of descriptive text | 5 | 4, 9, 14, 19, 24 |
| 5. | Make the inference of descriptive text | 5 | 5, 10, 15, 20, 25 |

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Table III. 4
Score of Category

| No | Score | Category |
|----|--------|-----------|
| 1. | 81-100 | Very good |
| 2. | 61-80 | Good |
| 3. | 41-60 | Mediocre |
| 4. | 21-40 | Bad |
| 5. | 1-20 | Poor |

To find out the students's score of test used formula:

$$\text{Students's score} = \frac{\text{total correct answer}}{\text{total number of question}} \times 100$$

F. Validity and Reliability

a. Validity of the Test

Validity in test is the extent to which inferences made from assessment results are appropriate, meaningful and useful in terms of the purpose of assessment. Thus, this research focused on reading comprehension test. To see the validity of the test, the researcher was tryout the test. The items which are too difficult (<0,30) and too easy (>0,70) will be edited. If the index put from that form, automatically the test items will not accepted. Sudijono (2008) pointed out 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 answers

JS = the number of test takers or students.

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**Table III.5
Instrument Validity**

| Items | r-item | Result |
|-------|--------|----------|
| 1 | 0.65 | Accepted |
| 2 | 0.60 | Accepted |
| 3 | 0.65 | Accepted |
| 4 | 0.65 | Accepted |
| 5 | 0.55 | Accepted |
| 6 | 0.60 | Accepted |
| 7 | 0.60 | Accepted |
| 8 | 0.45 | Accepted |
| 9 | 0.55 | Accepted |
| 10 | 0.45 | Accepted |
| 11 | 0.45 | Accepted |
| 12 | 0.45 | Accepted |
| 13 | 0.50 | Accepted |
| 14 | 0.45 | Accepted |
| 15 | 0.45 | Accepted |
| 16 | 0.65 | Accepted |
| 17 | 0.45 | Accepted |
| 18 | 0.60 | Accepted |
| 19 | 0.50 | Accepted |
| 20 | 0.60 | Accepted |
| 21 | 0.65 | Accepted |
| 22 | 0.65 | Accepted |
| 23 | 0.60 | Accepted |
| 24 | 0.65 | Accepted |
| 25 | 0.65 | Accepted |

Based on the table above, 25 questions item were accepted. Then, the proportion of correct answer is represented by “P”, whereas the proportion of incorrect answer is represented by “Q”. It can be seen in following tables:

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Table III. 6
Find the Main Idea of Descriptive Text

| Indicator | Find the Main Idea of Descriptive Text | | | | | J S |
|------------------|--|------|------|------|------|--------|
| Item No | 1 | 6 | 11 | 16 | 21 | 2 0 |
| Correct item (B) | 13 | 12 | 9 | 13 | 13 | |
| P | 0.65 | 0.60 | 0.45 | 0.65 | 0.65 | |
| Q | 0.35 | 0.40 | 0.55 | 0.35 | 0.35 | |

Based on the table III.6, the item numbers for find the main idea of descriptive text are 1, 6, 11, 16, and 21. It shows that the proportion of correct answer for item number 1 obtained 0.65, item number 6 obtained 0.60, item number 11 obtained 0.45, item number 16 obtained 0.65, and item number 21 obtained 0.65. Thus, based on the standard level of difficulty the test for find the main idea of descriptive text were accepted.

Table III.7
Find the Factual Information of Descriptive Text

| Indicator | Find the factual information of descriptive text | | | | | J S |
|------------------|--|------|------|------|------|--------|
| Item No | 2 | 7 | 12 | 17 | 22 | 2 0 |
| Correct item (B) | 12 | 12 | 10 | 9 | 13 | |
| P | 0.60 | 0.60 | 0.50 | 0.45 | 0.65 | |
| Q | 0.40 | 0.40 | 0.50 | 0.55 | 0.35 | |

Based on the table III.7, the item numbers for find the factual information of descriptive text are 2, 7, 12, 17, and 22. It shows that the proportion of correct answer for item number 2 obtained 0.60, item number 7 obtained 0.60, item number 12

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obtained 0.50, item number 17 obtained 0.45, and item number 22 obtained 0.65. Thus, based on the standard level of difficulty the test for find the factual information of descriptive text were accepted.

Table III.8
Find the Meaning of Vocabulary of Descriptive Text

| Indicator | Find the meaning of vocabulary of descriptive text | | | | | J S |
|------------------|--|------|------|------|------|--------|
| Item No | 3 | 8 | 13 | 18 | 23 | 2 0 |
| Correct item (B) | 13 | 9 | 10 | 12 | 12 | |
| P | 0.65 | 0.45 | 0.50 | 0.60 | 0.60 | |
| Q | 0.35 | 0.55 | 0.50 | 0.40 | 0.40 | |

Based on the table III.8, the item numbers for find the meaning of vocabulary of descriptive text are 3, 8, 13, 18, and 23. It shows that the proportion of correct answer for item number 3 obtained 0.65, item number 8 obtained 0.45, item number 13 obtained 0.50, item number 18 obtained 0.60, and item number 23 obtained 0.60. Thus, based on the standard level of difficulty the test for find the factual information of descriptive text were accepted.

Table III.9
Identify the Reference of Descriptive Text

| Indicator | Identify the reference of descriptive text | | | | | J S |
|------------------|--|------|------|------|------|--------|
| Item No | 4 | 9 | 14 | 19 | 24 | 2 0 |
| Correct item (B) | 13 | 11 | 9 | 10 | 13 | |
| P | 0.65 | 0.55 | 0.45 | 0.50 | 0.65 | |
| Q | 0.35 | 0.45 | 0.55 | 0.50 | 0.35 | |

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Based on the table III.9, the item numbers for Identify the reference of descriptive text are 4, 9, 14, 19, and 24. It shows that the proportion of correct answer for item number 4 obtained 0.65, item number 9 obtained 0.55, item number 14 obtained 0.45, item number 19 obtained 0.50, and item number 24 obtained 0.65. Thus, based on the standard level of difficulty the test for Identify the reference of descriptive text were accepted.

Table III.10
Make the Inference of Descriptive Text

| Indicator | Make the inference of descriptive text | | | | | J S |
|------------------|--|------|------|------|------|--------|
| Item No | 5 | 10 | 15 | 20 | 25 | 2 0 |
| Correct item (B) | 11 | 9 | 9 | 12 | 13 | |
| P | 0.55 | 0.45 | 0.45 | 0.60 | 0.65 | |
| Q | 0.45 | 0.55 | 0.55 | 0.40 | 0.35 | |

Based on the table III.10, the item numbers for make the inference of descriptive text are 5, 10, 15, 20, and 25. It shows that the proportion of correct answer for item number 5 obtained 0.55, item number 10 obtained 0.45, item number 15 obtained 0.45, item number 20 obtained 0.60, and item number 25 obtained 0.65. Thus, based on the standard level of difficulty the test for Identify the inference of descriptive text were accepted.

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b. Reliability of the Test

Reliability is an important component of a good test. According to McMillan (2006), reliability refers to the consistency of measurement, or the extent to which the scores are similar or different forms of the same instrument or occasions of data collection. Hence, a test would not be very valuable if it was inconsistent and produced different results every time. The researcher used Cronbach's Alpha test to see if multiple questions are reliable. The result of this reliability of the test is on the table below:

Table III.11

Reliability Statistics

| Cronbach's Alpha | N of Items |
|------------------|------------|
| .647 | 25 |

Based on the statistical counting above, the score reliability of the test is 0.647. The value cronbach's alpha can be interrupted as follow:

Table III.12

Cronbach's Alpha Interpretation

| Cronbach's Alpha | Interpretation |
|------------------|----------------|
| 0.00-0.20 | Low |
| 0.21-0.40 | Average |
| 0.41-0.70 | High |
| 0.71-1.0 | Very High |

Arikunto, 2011,p.100.

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Based on the table above, it can be conclude that reliability of the test was categorized into “High” level.

G. Technique of Data Analysis

In analyzing the comparison of reading comprehension between natural science and social science students on descriptive text at the tenth grade of State Senior High School 1 Tapung, the researcher analyzed the data using the statistical analysis. In this research, the researcher used t-test by using SPSS as the main technique to analyze the data to know comparison between natural science and social science students in reading comprehension of descriptive text. In reference to Pallant (2011), an independent samples t-test is used when we want to compare the mean score, on some continuous variable, for two different groups of participants.

The result of formula was obtained statistically through the hypotheses below:

- a. $H_0: t_0 < t\text{-table}$. It means that H_0 has accepted; there is no significant difference on reading descriptive text comprehension between natural science and social science students.
- b. $H_a: t_0 > t\text{-table}$. It means that H_a has accepted; there is significant difference on reading descriptive text comprehension between natural science and social science students.