

Hak Cipta Diindungi 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.

CHAPTER III

METHOD OF THE RESEARCH

3.1 Research Design

This research was a quantitative research, which used causal-comparative research in which the researcher should determine the cause, or reason, for existing differences in the behavior or status of groups or individuals. In short, causal-comparative studies focus on analyzing any differences between groups. Gay et al. (2012) stated that the basic causal-comparative design involves selecting two groups that differ on some variable of interest and comparing them on some dependent variable. They also stated that sometimes this design called as ex-post facto.

There are two types of ex-post facto designs they are proactive and retroactive. The design of this research was proactive design. According to Ary et al (2010, p.335) proactive ex-post facto design begins with subjects grouped on the basis of an independent variable. The researcher then compares these preexisting groups on measures of dependent variables. This research involved two variables which are major program (natural science and social science) as independent variable symbolized by “X” and reading comprehension as dependent variable symbolized by “Y”.

Hak Cipta Diindungi 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.

3.2 Location and Time of the Research

This research was conducted at Senior High School 12 Pekanbaru. It is located on Garuda Sakti Street, Pekanbaru. It was conducted on April 2017.

3.3 Subject and Object of the Research

The subject of this research was the eleventh-grade students of SMAN 12 Pekanbaru. Meanwhile the object of this research was the students' major program (natural science and social science) and their comprehension on reading analytical exposition text.

3.4 Population and Sample of the Research

3.4.1 Population of the Research

Syafi'i (2015, p.108) has pointed out that population of the research refers to total number of subjects from the data sources. In this case, population of the research is all of the eleventh-grade students in State Senior High School 12 Pekanbaru. There were 5 classes of natural science and 5 classes of social science which is consist of 32-40 students for each class. Total number of natural science was 181 students while the total number of social science students was 186 students. So, the total number of the population was 367 students. The specification of population can be seen on the table III.1 below:

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

Table III.1
The Total Population of the Eleventh Grade Students at SMAN 12
Pekanbaru

Natural Science Classes	Number of the Students	Social Science Classes	Number of the Students
XI IPA 1	39 students	XI IPS 1	32 students
XI IPA 2	33 students	XI IPS 2	40 students
XI IPA 3	33 students	XI IPS 3	38 students
XI IPA 4	38 students	XI IPS 4	38 students
XI IPA 5	38 students	XI IPS 5	38 students
Total	181		186
Total Population	367 students		

3.4.2 Sample of the Research

Due to the number of population that was quite large and the permission from the School, researcher took sample by using cluster random sampling because State Senior High School 12 Pekanbaru allowed the researcher to take two classes only as the sample. According to Gay (2012), cluster random sampling is most useful when the population is very large or spread out over a wide geographic area. So, the writer used cluster random sampling in choosing the sample. Cluster random sampling selects groups, not individuals. Therefore, the researcher selected two groups of students as the sample of this research. They are the students of Natural Science XI IPA 4 and Social Science XI IPS 5. The researcher selected those classes by using lottery.

3.5 Technique of Collecting the Data

To collect the data, the researcher used test. It is a set of stimuli presented to the samples in order to elicit responses on the basis of numerical score that can be assigned and measured by the researcher. Brown (2004) pointed out that a test is a

Hak Cipta Diindungi 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.

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 comprehension on analytical exposition text. The researcher made 35 questions related to analytical exposition text based on seven indicators as what explained in operational concept.

This technique was used to find out the students' score in reading comprehension of analytical exposition text based on difference major programs. They are natural science and social science major programs. The researcher used a type of written test to collect the data of 38 natural science students and 38 social science students' reading comprehension that came from a score by answering the test. The test consisted of 35 questions in multiple choice that cover all indicators, in another word, 5 questions for each point indicator of analytical exposition text. The items of the test were adopted from primary books based on syllabus curriculum 13 that used in this school and it was supported by 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 should choose one correct answer only.

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

Table III.2
Blueprint of Reading Comprehension of Analytical Exposition Text

No.	Indicators	Item Number
1	Identifying social function of analytical expositions text.	4,11,18,22,29
2	Identifying the thesis of analytical expositions text.	6,14,20,27,33
3	Identifying the argument of analytical expositions text.	3,12,21,24,35
4	Identifying the reiteration of analytical expositions text.	7,10,17,28,34
5	Identifying language features of analytical expositions text.	2,9,16,26,31
6	Identifying the author's perspective or argument in analytical expositions text.	5,13,19,23,30
7	Identifying the topic analytical expositions text.	1,8,15,25,32

Before the items used to get the real data, the researcher was conducted a try out to the different samples first. It purposes to get information about validity and reliability of the instrument.

3.6 Validity and Reliability of Instrument

3.6.1 Validity of the Instrument

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. This research focused on reading comprehension test. There are four kinds of validity for test: content validity, criterion-related validity, construct validity, and consequential validity and they are all interrelated (Gay et al., 2012). In this research, the researcher used content validity. According to Brown (2004), if all test items cover all of learning objectives (indicators) the test is content valid.

Content validity was used because the test given were based on materials that the students learned.

To find out the validity of instrument, writer calculated it by using SPSS 17 version. The standard value of validity is $r_{\text{item}} > r_{\text{table}}$. Based on the try out result, it was determined that all of the items were valid. The result of try out is as follows:

Hak Cipta Diindungi 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.



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. 3
The Item Validity of Try Out

Item Number	r-item	r-table	Result
1	0.49	0.39	Valid
2	0.62	0.39	Valid
3	0.54	0.39	Valid
4	0.48	0.39	Valid
5	0.46	0.39	Valid
6	0.47	0.39	Valid
7	0.54	0.39	Valid
8	0.44	0.39	Valid
9	0.46	0.39	Valid
10	0.57	0.39	Valid
11	0.45	0.39	Valid
12	0.51	0.39	Valid
13	0.45	0.39	Valid
14	0.45	0.39	Valid
15	0.56	0.39	Valid
16	0.55	0.39	Valid
17	0.46	0.39	Valid
18	0.41	0.39	Valid
19	0.57	0.39	Valid
20	0.42	0.39	Valid
21	0.44	0.39	Valid
22	0.57	0.39	Valid
23	0.44	0.39	Valid
24	0.45	0.39	Valid
25	0.57	0.39	Valid
26	0.43	0.39	Valid
27	0.55	0.39	Valid
28	0.46	0.39	Valid
29	0.41	0.39	Valid
30	0.46	0.39	Valid
31	0.61	0.39	Valid
32	0.52	0.39	Valid
33	0.45	0.39	Valid
34	0.40	0.39	Valid
35	0.50	0.39	Valid

3.6.2 Reliability of the Instrument

According to Gay et al. (2012), reliability is about consistency of the scores produced. They also pointed out that reliability is very important to judge the

Hak Cipta Diindungi 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.

suitability of a test. It is clear that reliability is to measure the consistency and the quality of the test score. According to Cohen et.al, (2007) the guidelines for reliability is as follows:

Table III.4
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 writer used software SPSS 17 version to calculate the reliability of test. The result of multiple choice test reliability is as follows:

Table III.5
Reliability Statistic

Cronbach's Alpha	N of Items
.909	35

The reliability of test was 0.909. It is categorized into highly reliable level.

3.7 Technique of Analyzing the Data

In order to find out whether there is or not a significant difference on reading comprehension of analytical exposition text between natural science and social science students at the eleventh grade of State Senior High School 12 Pekanbaru, the data of this research was analyzed ststistically. To analyze the students' score, the writer used the following formula:

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

Where:

S : students' score

Hak Cipta Diindungi 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.

B : total correct item

N : maximum correct item

The classification of the students' score are as follows:

Table III. 6
The Classification of Students' Score

Score	Categories
81-100	Very Good
66-80	Good
51-65	Enough
<50	Less

Then, to find out whether there is difference, the researcher used statistical method that is independent samples t-test formula by using SPSS.17.0 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 participant. So the the researcher used independent samples t-test because the researcher want to compare the mean score in two different groups; natural and social science students.

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

- 3.7.1. H_0 : Sig.Value > 0.05 . It means that H_0 has accepted; there is no significant difference on reading analytical exposition text comprehension between natural science and social science students.
- 3.7.2. H_a : Sig.Value < 0.05 . It means that H_a has accepted; there is a significant difference on reading analytical exposition text comprehension between natural science and social science students.