

### **CHAPTER III**

#### **RESEARCH METHOD**

This study investigated the effect of reading on incidental vocabulary acquisition through reading online newspapers. The subjects were the third semester students at the English education study program of IAIN Palangka Raya because of their learning is learning based internet. The purposes of the study are: 1) To measure the effect of reading online newspaper toward students' vocabulary acquisition incidentally by the third semester students at the English education study program of IAIN Palangka Raya; 2) To describe the third semester students' attitudes at the English education study program of IAIN Palangka Raya towards vocabulary acquisition incidentally through reading English texts and online newspapers. This chapter discusses the method of the study related to research design, research type, population and sample, time and place, research instruments, data collection procedures, and data analysis.

#### **A. Research Type**

This study used a quantitative design because this study concerned with the effect of reading online newspapers to students' vocabulary acquisition incidentally, then to gather the data the researcher used numerical data. In quantitative research, research design are classified into three broad categories, (1) descriptive research designs, (2) relationship research designs, (3) experimental research designs.<sup>51</sup>

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<sup>51</sup> Muhammad Adnan Latief. *Research Methods on Language Learning an Introductions*. 2014. Malang: UM Press. p. 122

The quantitative approach to the study of social and behavioral phenomena holds that the aim and methods of the social sciences are, at least in principle, the same as the aim and methods of the natural or physical sciences. Quantitative research more typically relies on measurement tools such as scales, tests, observation checklists, and questionnaires.<sup>52</sup> Quantitative research is explaining phenomena by collecting numerical data that are analyzed using mathematically based methods (in particular statistics).<sup>53</sup>

## **B. Research Design**

The research design used in this study was experimental research design, especially quasi-experimental. Experimental research measures the effect of one manipulated and controlled (independent) variable to another (dependent) variable.<sup>54</sup> There are several types of experimental research, some of them are true experimental, quasi-experimental, and pre-experimental.<sup>55</sup> Then, quasi-experimental designs are use when random selection of groups cannot be achieved. However, the control group and the experimental group are matched as nearly as possible. If a control group is not used, then parallel groups are experimented on to compare the consistency of the outcomes. The results of these designs are not as reliable as true experimental designs.<sup>56</sup>

There were two groups in this study, the first group is control class and the second group is experimental class. Both groups were given pre-test to

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<sup>52</sup> Donald Ary, et al. *Introduction to Research in Education*. (Eight Edition). 2010. Canada: Wadsworth. p. 420-421

<sup>53</sup> Daniel Muijs. *Op.cit.* p. 1

<sup>54</sup> Mohammad Adnan Latief. *op. cit.* p. 93

<sup>55</sup> Mohammad Adnan Latief. *Ibid.* p. 92

<sup>56</sup> Nicholas Walliman. *Research Methods The Basics*. 2011. Routledge: New York. p. 106

measure the students' score before treatment given. Then, the treatment was given for experimental class. After that, post-test was given for both groups to measure the students' score after the treatment given. Thus, the researcher made a table about description of experiment research class as follows:

**Table 3.1**  
**The Description of Experiment Research Class**

Group	Type of Treatment	Pre-test	Independent Variable	Post-test
Experimental Class	Online Newspapers (Authentic reading Material)	$Y_1$	X	$Y_2$
Control Class	Textbook (Non-authentic reading Material)	$Y_1$	—	$Y_2$

Where:

$Y_1$  : Pre-test

X : Treatment

$Y_2$  : Post-test

Note:

Variable (X) is independent variable, in this case, reading online newspapers. Then, variable (Y) is dependent variable which is incidental vocabulary acquisition.

## C. Population and Sample

### 1. Population

According to Ary, et al., population is defined as all members of any well-defined class of people, events, or objects.<sup>57</sup> According to Borg, W. R & Gall, M.D in Muhammad Adnan Latief, that target population in educational research usually is defined as all the members of a real or hypothetical set of people, events, or objects to which educational researchers wish to generalize the results of the research.<sup>58</sup>

Population of this study is all of the third semester students at the English education study program of IAIN Palangka Raya. The number of population is about 45students.

**Table 3.2**  
**The Number of The Third Semester Students at The English Education Study Program of IAIN Palangka Raya**

No.	Interpretive Reading Class	The Number of Students
1.	Class A	16
2.	Class B	16
3.	Class C	13
Total		45

Where:

Class A : Tryout class  
Class B : Control class  
Class C : Experiment class

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<sup>57</sup> Donald Ary, et al. *op.cit.* 148

<sup>58</sup> Mohammad Adnan Latief. *op. cit.* p. 181

## 2. Sample

According to Ary, et al., sample is a small group that is observed which is a portion of a population.<sup>59</sup> Charles, C.M. state in Muhammad Adnan Latief, defines a sample as a small group of people selected to represent the much larger entire population from which it is down. The sample for Junior High School students taking national English examination in Malang are some of those students taking the national English examination.<sup>60</sup>

The population of the study is all of the students of English Study Program at State Islamic Institute of Palangka Raya academic year 2015/2016. The number of population is about 45 students. It is classified into three classes.

Cluster sampling, according to Ary, et al., is where the unit chosen is not an individual but, rather, a group of individuals who are naturally together.<sup>61</sup> Thus, the samples were class B and C. Class B become the control class, class C became the experimental class, and class A become try out class for instrument of the test.

## D. Time and Place

This study conducted for two months include doing the try out, taking the data, and interpreting the data. It will take place in English Education Study

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<sup>59</sup> Donal Ary, et al., *loc.cit* p. 148

<sup>60</sup> Mohammad Adnan Latief. *op. cit.* p. 181

<sup>61</sup> Donal Ary, et al., *op. cit.* p. 154

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## **E. Research Instruments**

### **1. Research Instruments**

#### **a. Test**

In this study, the researcher used vocabulary levels test to answer the first question. In this test consists of unknown words to be tested, where the text adopted from Jakarta Post which related with the students environments. The total numbers of the target words were 60 words: noun (26), verb (19), adjective (14), and adverb (1). The test used twice, before and after the students read the texts, as a pre- and post-test. The pre-test is administered at the first meeting, then reading session take place one week after pre-test (next meeting) about 2 times meeting. The post-test is administered after reading session, exactly after it and they have no opportunity to look back at the text. According to Nation, this administration as forgetting occurs most rapidly immediately after the initial learning, it was assumed that a post-test administered immediately after the reading would show inflated results.<sup>62</sup> Penguin series of graded readers is limited according to this scale:

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<sup>62</sup> Nina Dascalovska. *op.cit.* p.205

**Table 3.3**  
**Penguin Series of Graded Readers**

Level	Number of words
Easystarts	200
level one Beginner	300
level two Elementary	600
level three pre-Intermediate	1200
level four Intermediate	1700
level five upper-Intermediate	2300
level six advanced	3000

Beside that, According to Hu & Nation the students have to know 98% coverage of various kinds of text. When the students has 98% coverage of a text, adequate unassisted comprehension is possible.<sup>63</sup> According to Nation and Beglar the vocabulary size test samples from the most frequent 14.000 words families of English. The test consists of 140 items (10 from each 1000 word level).<sup>64</sup>

Rubric scoring based on Seyed Jafar Ehsanzadeh's study, as follows:

**Table 3.4**  
**Scoring Rubric**

Correct answer	1
Incorrect answer	0
Maximum score	60

So, from the table above, because of the correct point is 1 and the incorrect is 0, so the score were:

Minimum score :  $0 \times 1 = 0$

Maximum score:  $60 \times 1 = 60$

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<sup>63</sup> The Japan Association for Language Teaching (JALT). July, 2007. Vol. 31, No. 7. p. 9

<sup>64</sup> *Ibid.* p.11

According to Nation and Beglar 10 item each 1000 words level,  
thus graded scale, as illustrated below:

**Table 3.5**  
**Words Level Scale**

Correct answer	Word level
1-10	100 – 1000
11-20	1100 – 2000
21-30	2100 – 3000
31-40	3100 – 4000
41-50	4100 – 5000
51-60	5100 – 6000

(university level = <5000 words level)

#### **b. Questionnaire**

Questionnaire is an instrument in which respondents provide written responses to questions or mark items that indicate their response.<sup>65</sup> Questionnaire is a written instrument consisting of questions to be answered or statements to be responded by respondents. It is used to gather information about fact or about opinion/attitude.<sup>66</sup>

The researcher will use Likert scales to measure the students' attitudes toward vocabulary acquisition incidentally through reading. Likert scale consist of a series of statement all of which are related to

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<sup>65</sup> Donal Ary, et al. *op. cit.* p.648.

<sup>66</sup> Mohammad Adnan Latief. *op. cit.* P. 193.



particular target (which can be among others, an individual person, a group of people, an institution, or a concept).<sup>67</sup>

This instrument adapted from Wilaiwan Lebkatem's thesis, any five-point Likert scale from "strongly agree" to "strongly disagree" questionnaire was used to determine the subjects' attitudes towards learning words through reading English text and newspaper.<sup>68</sup>

The questionnaire is to find the data from the five-point rating scale were calculated for means and standard deviations. The ranges of the mean scores for each level are employed for interpreting the level of agreement presented as follows.

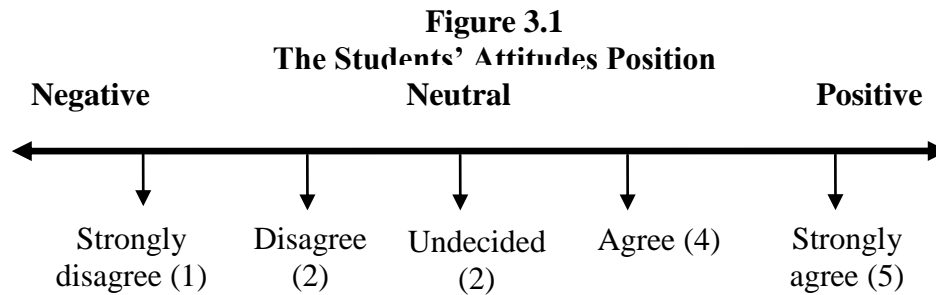
4.21 – 5.00	=	Strongly agree
3.41 – 4.20	=	Agree
2.61 – 3.40	=	Moderately agree
1.81 – 2.60	=	Disagree
1.00 – 1.80	=	Strongly disagree

Beside that, this data is concerned on attitudes towards any object or on any issue varied along the same underlying negative-to-positive dimension. To reflect the students' position on that dimension is illustrated below:

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<sup>67</sup> Rahmiyati. *op. cit.* p. 31.

<sup>68</sup> Wilaiwan Lebkatem. *op. cit.* p. 112-113



(source from Rob Johns (University of Strathclyde), Survey question bank: Methods fact sheet 1 on March 2010)

## 2. Research Instruments Try Out

The try out of instrument was conducted in class A on Wednesday, 14<sup>th</sup> September 2016 with the number of student was 13 students from 16 students because 3 students were absent. The researcher analyzed the test instruments to gain the information about the instruments quality that consists of instrument validity and instrument reliability. The procedures of the try out as follows:

- a. The researcher give try out to the students.
- b. The researcher give score to the students' answer, then the researcher interpreted the result of data to know the instruments validity, instruments reliability, index of difficulty and discrimination power.
- c. After that, the researcher tested the test for the real sample.

## 3. Research Instruments Reliability

The reliability of a measuring instrument is the degree of consistency with which it measures whatever it is measuring. This quality is essential

in any kinds of measurement<sup>69</sup>. Afterwards, on a theoretical level, reliability is concerned with the effect of error on the consistency of scores. Thus, the high level of credibility if the score is consistent.

The researcher used Kuder-Richardson 21 (KR-21) formula. According to Ary, et al, Kuder-Richardson procedures Kuder and Richardson (1937) developed procedures that have been widely used to determine homogeneity or internal consistency. There are two formulas, KR-20 and KR-21. In this study, the researcher will use KR-21 because KR-20 cannot be calculated by computer. KR-21 is computationally simpler but requires the assumption that all items in the test are of equal difficulty.<sup>70</sup> The formula for KR-21 as follows:

$$r_{xx} = \frac{Ks_x^2 - \bar{X}(K - \bar{X})}{s_x^2(K - 1)}$$

Where:

$r_{xx}$  = reliability of a whole test

K = number of items in the test

$s_x^2$  = varians of the score

$\bar{X}$  = mean of the score

The steps in determining the reliability of the test were:

a. Making tabulating of testes' scores.

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<sup>69</sup> Donal Ary, et al. *op.cit* p.236

<sup>70</sup> Donal Ary, et al. *ibid.* p. 245

- b. Measuring the mean of the testes' scores with the formula :

$$M = \frac{\sum Y}{N}$$

- c. Measuring the total variants with the formula:

$$V_t = \frac{\sum Y^2 - \frac{(\sum Y)^2}{N}}{N}$$

$V_t$  = the total variants

$\sum Y$  = the total of score

$\sum Y^2$  = the square of score total

$N$  = the number of testes

- d. Calculating the instrument reliability using KR-21.

- e. The last decision is comparing the value of  $\Gamma_{11}$  and  $\Gamma_t$

- f. Knowing the level of reliability of instrument, the value of  $\Gamma_{11}$  was interpret based on the qualification of reliability as follows:

$$\Gamma_{11} > r_{\text{table}} = \text{Reliable}$$

$$\Gamma_{11} < \Gamma_{\text{table}} = \text{Not Reliable}$$

To interpret the reliability of instrument, the researcher used the criteria of reliability as shown below:

**Table 3.6**  
**Criteria of Reliability**

Reliability	Interpretation
0.800- 1.000	Very High Reliability
0.600-0.799	High Reliability
0.400-0.599	Fair Reliability

0.200-0.399	Poor Reliability
0.000-0.199	Very Poor Reliability

From the measurement of instrument try out reliability it is known that the whole numbers of test items are reliable and can be used as the instrument of the study.

#### 4. Research Instruments Validity

Validity was defined as the extent to which an instrument measured what it claimed to measure<sup>71</sup>.

##### a. Content Validity

According to Heaton, a good test should possess validity: that is it should measure what is intended to measure and nothing else.<sup>72</sup> The test must be valid if its content was related to what students learned. The test based on the students' need that contains unfamiliar words suitable with their material in the classroom. The content specification of items test, as illustrated below:

**Table 3.7**  
**Content specification of items test**

No.	Item	Question/Definition	Source	Key Answer	Part of speech
1	1	of or connected with the making and distribution of medicine	Paragraph I	Pharmaceutical	Noun
2	2	a place from which an organization is controlled	Paragraph I	Headquarters	Noun
3	3	not genuine	Paragraph II	Fake	Verb
4	4	not genuine	Paragraph III	Counterfeit	Verb
5	5	to say or show that one is unwilling to give, accept or do something	Paragraph IV	Refused	Verb

<sup>71</sup> Donal Ary, et al., *ibid*, p.225

<sup>72</sup> Evriana Asmara. *Op. Cit.* p. 48

6	6	go forward	Paragraph IV	Ongoing	Adjective
7	7	coming before a more important action or event	Paragraph IV	Preliminary	Adjective
8	8	a person who sells food or other small items from a stall in the open air	Paragraph VI	Vendor	Noun
9	9	having or showing suspicion	Paragraph VII	Suspicious	Adjective
10	10	a child who has only recently learnt to walk	Paragraph VII	Toddler	Noun
11	11	group of buildings where goods are manufactured or assembled	Paragraph VII	Factories	Noun
12	12	a person suspected of a crime, etc	Paragraph VIII	Suspect	Noun
No.	Item	Question	Source	Key Answer	Part of speech
1	13	the practice of having slaves	Paragraph II	Slavery	Noun
2	14	a child's nurse	Paragraph III	Nanny	Noun
3	15	the state of being forced to work for others and having no freedom	Paragraph III	Servitude	Noun
4	16	wrong or excessive use of one's power, position, etc	Paragraph III	Abused	Verb
5	17	very distressing	Paragraph IV	Harrowing	Adjective
6	18	to succeed in creating a particular feeling or attitude in oneself or in other people	Paragraph IV	Mustering	Verb
7	19	the ability to control fear when facing danger, pain, opposition, etc	Paragraph IV	Courage	Noun
8	20	to become free	Paragraph IV	Escape	Verb
9	21	to end the existence of a law, practice, and institution	Paragraph IV	Abolish	Verb
10	22	to express approval or admiration for somebody or something	Paragraph V	Praised	Verb
11	23	to keep somebody in a place from which they want to move but cannot	Paragraph VII	Trapped	Verb
12	24	a women servant in a large house	Paragraph VII	Housemaid	Noun
No.	Item	Question	Source	Key Answer	Part of speech
1	25	to allow something to be seen	Paragraph I	Revealed	Verb
2	26	to give somebody/something a particular name	Paragraph II	Dubbed	Verb
3	27	a member of cabinet	Paragraph III	Minister	Noun
4	28	that can be obtained or used	Paragraph IV	Available	Adjective
5	29	to show something	Paragraph IV	Indicate	Verb
6	30	to help something to develop; to stimulate something	Paragraph VI	Encourage	Verb

7	31	to cover or make something cover a large or increasing area	Paragraph VI	Spread	Verb
8	32	that can not be stopped or prevented	Paragraph VI	Unstoppable	Adjective
9	33	financial resources	Paragraph VI	Fund	Noun
10	34	spreading easily from one person to another	Paragraph VI	Contagious	Adjective
11	35	to give something to somebody or something	Paragraph VII	Submit	Verb
12	36	coming before in time	Paragraph VII	Prior	Adjective
No.	Item	Question	Source	Key Answer	Part of speech
1	37	a table or small shop with an open front from which things are sold in a market, in a railway station, etc	Paragraph I	Stall	Noun
2	38	celebration; happiness and enjoyment	Paragraph I	Festivity	Noun
3	39	a place where people agree to meet	Paragraph III	Venue	Noun
4	40	food cooked in a certain style	Paragraph V	Cuisine	Noun
5	41	any type of drink except water	Paragraph V	Beverage	Noun
6	42	a thing that makes time pass pleasantly	Paragraph V	Amusement	Noun
7	43	likely to attract or occupy the attention, charming	Paragraph V	Engaging	Adjective
8	44	to make sure of something	Paragraph VI	Ensure	Verb
9	45	done without advance preparation, practice or thought	Paragraph VII	Impromptu	Adjective
10	46	an area of short, regularly cut grass in the garden of a house or in a public park	Paragraph VII	Lawn	Noun
11	47	a thing passed to somebody by people who lived before them or from earlier events	Paragraph VIII	Legacy	Noun
12	48	cloth decorated with patterns sewn in thread or various	Paragraph VIII	Embroidery	Noun
No.	Item	Question	Source	Key Answer	Part of speech
1	49	to become or make something stricter	Paragraph I	Tightened	Verb
2	50	a sudden appearance or start of something	Paragraph I	Outbreak	Noun
3	51	to start something	Paragraph III	Launch	Verb
4	52	quick to notice things and to think or act	Paragraph III	Alert	Adjective
5	53	a sign of the existence of	Paragraph IV	Symptom	Noun

		something bad			
6	54	Mainly	Paragraph V	Mostly	Adverb
7	55	a general feeling of illness, without clear signs of a particular one	Paragraph V	Malaise	Noun
8	56	not severe or harsh	Paragraph V	Mild	Adjective
9	57	intended to prevent something undesirable	Paragraph VI	Preventive	Adjective
10	58	to cover somebody or something with soil, rocks, leaves	Paragraph VI	Burying	Verb
11	59	to arrange things or people in a particular way or position	Paragraph VI	Disposing	Verb
12	60	relating to or containing heat	Paragraph VII	Thermal	Adjective

b. Face Validity

To face validity of the test items as follows:

- 1) The unfamiliar words based on the online newspapers and the definition based on the oxford dictionary.
- 2) Language was used English
- 3) The test items were suitable with the course outline of interpretive reading class

c. Construct Validity

To test the construct validity of the questionnaire, factor analysis was used by correlating score item of instrument by using Pearson product moment formula as follow.<sup>73</sup>

$$r = \frac{n(\sum XY) - (\sum X) \cdot (\sum Y)}{\sqrt{\{n \cdot \sum X^2 - (\sum X)^2\} \{n \cdot \sum Y^2 - (\sum Y)^2\}}}$$

Where:

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<sup>73</sup> Ridwan, M. B. A. *Dasar-Dasar Statistik*. 2013. Bandung: Alfabeta. P. 227



$r$  = correlation coefficient

$\Sigma X$  = total score of an item

$\Sigma Y$  = total score of all items

$n$  = number of respondent

After gathering the results  $r_{11}$ , the researcher interprets the result by using coefficient correlation interpretation table as bellow:

**Table 3.4**  
**Coefficient correlation interpretation**

<ul style="list-style-type: none"> <li>• 0.800 – 1.00 : Very high</li> <li>• 0.600 - &lt;0.800: High</li> <li>• 0.400 - &lt;0.600: Reasonable</li> <li>• 0.200 - &lt;0.400: Low</li> <li>• 0.00 - &lt;0.200 : Very low</li> </ul>
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If the score item upper or equal with 0.400, the item is valid and acceptable. But, if the score item under 0.400, the item is invalid and unacceptable.

#### **F. Data Collection Procedures**

In this study, the researcher collected the data from pre-post test and questionnaire.

1. The researcher prepared the instruments test, those are pre-post test and questionnaire.
2. The researcher did try out the instruments test to the tryout class.

3. The researcher calculated the result of tryout to find the reliability and validity of test.
4. After found the reliability and validity of test, the researcher applied it in the experimental class and control class.
5. The researcher determined the class into experimental class and control class.
6. The researcher gave pre-test to the experimental class and control class before treatment.
7. The researcher gave treatment to experimental class using online newspaper.
8. The researcher gave post-test to the experimental class and control class after treatment.
9. The researcher gave questionnaire to experimental class at the end of meeting.
10. The researcher calculated, analyzed and interpreted the result of test and questionnaire
11. The researcher drew conclusion from the data finding and theories about Incidental Vocabulary Acquisition through Reading Online Newspaper by The Third Semester Students at The English Education Study Program of IAIN Palangka Raya

#### **G. Data Analysis**

The data of this study were the students' score of pre-test, post-test and questionnaire. Therefore, the data were quantitative. In this case, the

researcher used  $t_{\text{test}}$  to solve the research problems of this study about Incidental Vocabulary Acquisition in Reading Online Newspaper by The Third Semester Students at The English Education Study Program of IAIN Palangka Raya. In order to analyzed the data, the researcher did some way procedures, as follows:

1. Tabulated the data into the distribution of frequency of score table, then found out the mean of students' score, standard deviation, and standard error of variable X1 (experimental class) and X2 (control class) by using the formulas below:

- a. Mean of students' score :  $\bar{X} = \frac{\sum FX_i}{n}$

Where:

$$\sum FX_i = \text{total of score}$$

$$n = \text{total of the students}$$

- b. Standard Deviation

$$S = \sqrt{\frac{n \sum F_{xi}^2 + (\sum F_{xi})^2}{n(n-1)}}$$

- c. Standard Error

$$SE_{md} = \frac{S}{\sqrt{N-1}}$$

Where:

S= Standard deviation

$n_1$ = the number of the experimental group

$n_2$ = the number of the control group

$SE_{md}$ = Standard error

N= Number of Case

d. Normality Test

It is used to know the normality of the data that is going to be analyze whether both groups have normal distribution or not. Chi square was used.

$$X^2_{\text{observed}} = \sum_{i=1}^k \frac{(f_o - f_e)^2}{f_e}$$

Where:

$X^2_{\text{observed}}$  = Chi square

$f_o$  = frequency from observation

$f_e$  = expected frequency

Calculation result of  $X^2_{\text{observed}}$  was compared with  $X^2_{\text{table}}$  by 5% and 1% degree of significance. If  $X^2_{\text{observed}}$  was lower than  $X^2_{\text{table}}$  so the distribution list was normal.

Then, in this study, the researcher used **One-Sample Kolmogorov-Smirnov Test** to test the normality.

e. Homogeneity Test

It is used to know whether experimental group and control group, that were decided, come from population that has relatively same variant or not. The formula was:

$$X^2_{\text{observed}} = (\log 10) \times (B - \sum (dk) \log S^2_i)$$

Where:

$$B = (\log S^2_i) \times \sum (n_i - 1)$$

Notice:

$\chi^2_{observed} \leq \chi^2_{table}$ , is homogeneity.

$\chi^2_{observed} \geq \chi^2_{table}$ , is not homogeneity.

If calculation result of  $\chi^2_{observed}$  was lower than  $\chi^2_{table}$  by 5% degree of significance, it meant both groups had same variant.

In this study, the writer used **Levene Test Statistic** to test the homogeneity of variance.

- f. Calculated the data by using  $t_{test}$  to test the hypothesis of the study, whether the using of online newspaper gave effect to the students' vocabulary acquisition scores or not. To examine the hypothesis, the researcher used  $t_{test}$  formula as follows:

$$t_{observed} = \frac{Mn_1 - Mn_2}{\sqrt{\frac{(n_1 - 1)S_1^2 + (n_2 - 1)S_2^2}{n_1 + n_2 - 2} \left( \frac{1}{n_1} + \frac{1}{n_2} \right)}}$$

Where:

$Mn_1$  = the mean score of experimental group

$Mn_2$  = the mean score of control group

$S_1^2$  = variance of experimental group

$S_2^2$  = variance of control group

$n_1$  = total of experimental group students

$n_2$  = total of control group students

To know the hypothesis was accepted or rejected using the criterion: **If  $t_{observed}$  (the value)  $\geq t_{table}$ , it means  $H_a$  is accepted**

**and  $H_0$  is rejected. If  $t_{\text{observed}}$  (the value)  $\leq t_{\text{table}}$ , it means  $H_a$  is rejected and  $H_0$  is accepted.**

In this study, the researcher used **Paired Sample T Test** to test the hypothesis was accepted or not.

- g. Interpreted the result of  $t_{\text{test}}$ . Previously, the researcher accounted the degrees of freedom (df) with the formula:

$$df = (N1+N2-2)$$

Where:

df: degrees of freedom

N1: Number of subject group 1

N2: Number of subject group 2

2: Number of variable

After that, the value of  $t_{\text{test}}$  will be consulted on the  $t_{\text{table}}$  at the level of significance 1% and 5%. If the result of  $t_{\text{test}}$  was higher than  $t_{\text{table}}$ , it means  $H_a$  was accepted. But if the result of  $t_{\text{test}}$  was lower than  $t_{\text{table}}$ , it means  $H_0$  was accepted.

- h. The researcher made the conclusion of data analysis obtained.
- i. In addition, the researcher used SPSS 18.00 program to compare the data.
- j. Discussed and conclude the result of data analysis.