

CHAPTER III

RESEARCH METHOD

To get accurate data, the setting of the research is outlined and directed to answer the formulation of the problem. This chapter presents the description of the research methodology. It discusses the aspect, which are very important and support the analysis of the research problem. It includes research design, the subject of research, data collection method, instrument, and data analysis.

A. Research Design

Based on the title which is mentioned before, this study is called quantitative research. According to John W. Best in his book *Research in Education*, he defines Quantitative study as a numerical method of describing observations of materials of characteristic.¹

This research has two variables. The first variable is "students' achievement in English 2". The second variable is "Students' ability in reading English mass media". To get the data of the first and the second variables, the test will be used. The result of the first test and the second test will be calculate and correlated. Then the degree of that correlation will be used to decide whether the relation between variable 1 and variable 2 is strong, weak, or there is no correlation.

¹ John.W.Best, *Research in Education Fourth Edition* (New Jersey:Prentice hall, INC, Engle wood, 1981),15.

B. Population and Sample

1. Population

Population is the group of interest to the researcher, the group to which she or he would like the result of the study to be generalizable.² The population of this study is non- English students of STAIN Kediri .They are students who do not study at English department and take English course. They are students of different departments. Those are *PAI, PBA, KI, PSI, PA, TH, EI, and AS*. The students are in the third semester which is in the academic year 2008.

The students of English 2 are divided into 12 classes. Each of them contains 25 to 30 students. So, the number of students who take this subject is for about 300 students.

2. Sample

The population of the study is too large. So the researcher takes the sample in this research. Sample is a number of individuals for a study in such a way that the individuals represent the larger group from which they were selected.³ L.R.Gay stated about selection of the sample in his book *Educational Research* as below:

Selection of the sample is a very important step in conducting a research study. The “goodness” of the sample

² Ibid.,125

³ Ibid,123

determines the generalizability of the results. Since conducting a study generally requires a great deal of time and energy, nongeneralizable results are extremely wasteful; if all results were true only for the group on which they were based, educators could never benefit from anyone else's work and each and every study would have to be replicated an almost infinite number of time.⁴

In selecting a sample this study uses random sampling. Random sampling is the process of selecting a sample in such a way that all individuals in the defined population have an equal and independent chance of being selected for the sample.⁵ This research uses the random sampling because the students of English 2 are divided into some classes randomly.

This research will take 30 students as the sample. It is based on the L.R.Gay statement in *Educational Research* as bellow:

In general, the minimum number of subjects believed to be acceptable for a study depends upon the type of research involved. For descriptive research, a sample of 10% of the population is considered minimum. For smaller populations, 20% may be required. For correlational studies at least 30 subjects are needed to establish the existence or nonexistence of a relationship⁶.

C. Data Collection Method

The data are collected by means of test. There will be 2 tests in this study. The first test is aimed to get the data of students' achievement of English 2. The second test is aimed to get the data of students' achievement in reading English media. The

⁴ L.R. Gay, *Educational Research competencies For analysis And Application* (New york;Macmillan1987),125

⁵ Ibid.,126

⁶ Ibid., 137

result of the first data will be correlated to the second test. Then the degree of that correlation will be used to decide whether the relation between variable 1 and variable 2 is strong, weak, or there is no correlation.

D. Instrument

The instrument in this research is test. The test is done to get the data about students' achievements of English 2 and students' ability in reading English mass media.

The first test is done to get data about students' achievements of English 2. The material of the test is taken from English 2 books. And the test will be tested in the end of course, after they get the material completely. That is done to avoid the bias of the test result.

The second test is done to get data about students' ability in reading English mass media. The material of the test will be made from magazine text, newspaper text and internet text which in English. The test is taken from those mass media because those all are English mass media which is often accessed by students. This test will be tested in the end of English course2.

Before the test is tested, the test is tried out first. The aims of conducting the try-out are to know the reliability of the test score. Try-out test is essential for the research to get the good test which can give an accurate data. According to David

P. Harris there are 2 characteristics of a good test. Those are high validity and reliability.⁷

1. Validity.

The most simplistic definition of validity is that it is the degree to which a test measures what it is supposed to measure⁸. John W. Best defined validity as quality of a data-gathering instrument or procedure⁹. There are four kinds of validities. Those are content validity, construct validity, concurrent validity, and predictive validity. This research will use the first kind of validities to know the validity of test. Content validity is the degree to which a test measures an intended content area¹⁰. To know whether the first test measure what should be measured or not the test items must reflect the material of English 2. Those reflections can be seen at the table below:

TABLE III.1
THE VALIDITY OF ACHIVEMENT TEST

Skills	Number Items	Topic
Grammar	1-4	Gerund
	5-8	Causative form
	9-12	Passive voice

⁷ Harris, David P. *Testing English As Second language* (MCGraw-Hill book company: Newyork 1969)

⁸ L.R. *Educational Research competencies For analysis And Application* ,155

⁹ John W. best. *Research in Education Fourth Edition*.153

¹⁰ L.R Gay. *Educational Research*.156

	13-16	Reported speech
	17-20	Participle
Reading	21-24	Skimming
	25-28	Scanning

The validity of the second test is based on the levels of reading ability which contain of four levels. The reflection of the levels into the items is presented into the table below:

TABLE III.2
THE VALIDITY OF READING TEST

Levels	Number
Literal level	6 items
Organizational level	6 items
Inferential Level	6 items
Critical level	6 items

2. Reliability

David P. Harris defined reliability as the stability of the test score¹¹. In the same meaning but in different word, reliability is defined by John W Best as below:

¹¹ Harris, David P. . *Testing English As Second language*.

“Reliability is the quality of consistency that the instrument or procedure demonstrates over a period of time. Whatever it determines, It does so consistently”¹²

“Basically, reliability is the degree to which test consistency measures whatever it measure”¹³

The coefficient of reliability is 0.00 - 1.00. The closer of coefficient to 1.00 it means that the stronger the reliability of the test. In versa, the closer of coefficient to 0.00 it means that the weaker the reliability of the test.

To know the reliability of students' achievement test of English 2. The test is tested at the same level of objects. In calculating the reliability, this research uses the spearman-Brown formula which is as below:

$$S-B = r_{xx} = \frac{2(r_{1,2})}{1 + r_{1,2}}$$

r_{xx} = Reliability Coefficient Spearman Brown

$r_{1,2}$ = Correlation Coefficient between variable 1 and 2.¹⁴

By using the formula above, the calculation of the first test reliability is as below:

TABLE III.3
THE RELIABILITY OF ACHIEVEMENT TEST

No	Name	Totals Score	Odd	Even
1	Lu'lu Aini	24	12	12
2	Sufirmansyah	24	13	11

¹² Best, Jhon W. *Educational research Fourth Edition*. 153-154

¹³ L.R Gay. *Educational Research*. 161

¹⁴ Drs. Saifudin Azwar, MA. *Reliabilitas dan Validitas*. Pustaka pelajar. Yogyakarta. 2000. p 69

3	Rouf Bahaudin	23	12	11
4	Heru Perdana	24	13	11
5	Fatma Yulianti	22	12	10
6	Titik Emawati	21	11	10
7	Khusnul A.A	21	11	10
8	Setyowati	19	9	10
9	Ervin Naviatin	17	8	9
10	Ilma Putri F.	18	10	8
11	Aftonur Rosyad	18	10	8
12	Wahyuning tyas	18	10	8
13	Isya Novita	15	7	8
14	Ana H.R	15	8	7
15	Ali Yafei	13	7	6
16	In'am Fadilah	14	8	6
17	Mustofa Kahmid	14	8	6
18	M.Munirul lknwan	12	7	5
19	M.Sir Hasanul Khalqi	11	6	5
20	Taqwimul Hadi	10	5	5
21	Kholiq Junaidi	11	5	6
Correlation= 0,887304				
N=21				

$$\begin{aligned}
 S-B = r_{xx} &= \frac{2(r_{1,2})}{1+r_{1,2}} \\
 &= \frac{2(0.887304)}{1+0.887304} \\
 &= \frac{1.774608}{1.887304} \\
 &= 0.94028
 \end{aligned}$$

To know the reliability of the second test, the test is tried out at the readers of English Mass Media. In this case they are taken from English department by

assumption that they are often get the assignment to find articles from any English mass media to support their study. The result of the test is also calculated by Spearman-Brown formula. The calculation of the reliability of the second test is presented below:

TABLE III.4
THE RELIABILITY OF READING TEST

No	Name	Totals Score	Odd	Even
1	Suriah Nuryani	34	16	18
2	Sri Rahayu	34	16	18
3	Muslimah Sa'diyah	31	14	17
4	Nurul Aini	31	16	15
5	Mila Alifzatul A	30	14	16
6	Nailatul Lailatul F	24	14	10
7	Ahmad Toha	30	14	16
8	Yuyun Handayani	31	14	17
9	Kiki novina wati	31	16	15
10	Lia susilo Wati	32	16	16
11	Lilis tsanrotul Ilmi	34	17	17
12	laili Susianti	28	14	14
13	Cheta ahmad	37	17	20
14	Ifa Noor Layli	34	16	18
15	Badrus Salarn	29	13	16
16	Novie Andika	34	16	18
17	Maskurin	33	16	17
18	Ria	31	15	16
19	Imroatul muhsinin	34	17	17
20	Mey Safitri	26	13	13
21	Andik R	30	16	14
22	Novie	30	14	16
23	Muslimah	30	13	17
24	Debbi Susanti	25	13	12
25	Imroatul hasanah	33	14	19
26	Dhoti	35	17	18
27	Indah Nur Hayati	34	16	18

28	Umi	31	13	18
29	Yunita	35	16	19
30	Qurotul uyun	29	15	14
N=30				
Correlation=0,476385				

$$\begin{aligned}
 S-B = r_{xx} &= \frac{2(r_{1.2})}{1 + r_{1.2}} \\
 &= \frac{2(0.476385)}{1 + 0.476385} \\
 &= \frac{0.95277}{1.476385} \\
 &= 0.6453
 \end{aligned}$$

From the calculations above we can conclude that the first test has strong reliability and the second test has fair reliability.

E. Data Analysis

According to Arikunto, data analysis is a process of searching out, arranging systematically the interview transcript, documents study, recording and other materials or the collect data¹⁵.

There will be three main steps in data analysis of this study. The first is analyzing the data which is collected from Students' achievement in English 2. The

¹⁵ Arikunto, Suharsini. *Procedure Penelitian Kualitatif Suatu Pendekatan Pral.tek*, (Jakarta : Rineka Cipta, 1993), 134.

second is analyzing the data which is collected from students' ability in reading English mass media, and the last is analyzing of the correlation between students' achievements in English 2 and students' ability in reading English mass media. Because the data are ordinal data, so the analysis uses Rank Spearman Rho formula. The schematic representation of this formula would look like the following formula:

$$\rho = 1 - \frac{6 \sum D^2}{N(N^2 - 1)} \quad (3)$$

Where:

ρ = The spearman rho correlation coefficient.

$\sum D^2$ = The sum of squares of the differences between ranks.

N = The number of the cases.

F. Correlation Coefficient (CC)

Cc is used to measure whether the relation is strong, weak or there is no correlation between variable 1 and variable 2. According to Husaini Usman and R.Purnomo Setiady Akbar in their book *Pengantar Statistika*¹⁶ the standard of the strength are:

¹⁶ Usman, Husaini dan R.Purnomo Setiady Akbar. *Pengantar Statistika*. Pustaka Pelajar. Surabaya, 1999. page 197

TABLE III.5
THE COEFFICIENT CORRELATION

CC	Interpretation
0	There is no correlation
0,01-0,20	Very weak
0,21-0,40	Weak
0,41-0,60	Rather weak
0,61-0,80	Fair
0,81-0,99	Strong
1	Very Strong