CHAPTER III
RESEARCH METHOD

A. Approach and Type of the Study

1. Approach of the study

This study used quantitative approach, because quantitative is the data that form of number using statistics data. Research with quantitative approach emphasizes the analysis of numerical data (numbers) are processed with statistical methods. [53]

2. Type of the study

In this study, analysis content research was used. Neuman states that content analysis is a technique for gathering and analyzing the content of text.[54] Content analysis involves analyzing the content of existing written, audio, or visual communication in an effort draw conclusions about the characteristics, attitudes, and occasionally, behaviors of the individuals or groups that produced it.[55] In relationship to this, it is a study which analyzes the content of students answers of test items.

Content analysis is widely used in education. The following are some of the purposes of content analysis in educational research:

a. To identify bias, prejudice, or propaganda in textbooks.

b. To analyze types of errors n students' writings.

[53] Saifuddin Azwar, *Metode Penelitian*, Jogjakarta: Pustaka Pelajar, 2007, p.5.
[54] Bambang Prasetyo and Lina Miftahul Jannah, *Metode Peneitian Kuantitatif*, Jakarta: Raja Grafindo Persada, 2005, p.165.
[55]Capone, *designing A Study Using Content Analysis,* http://capone.mtsu.edu/jbwallae/3040/assign2d.htm. (Accessed on February 10, 2013).

c. To describe prevailing practices.

d. To discover the level of difficulty of material in textbooks or other publications.

e. To discover the relative importance of, or interest in, certain topics.

Content analysis may be done in an emergent design framework,or they may be done in a quantitative research frameworks with variables that are specified a priori and numbers that are generated to enable the researcher to draw conclusions about these specified variables.[56]

B. Population and Sampling of the Study

1. Population of Study

Population is the whole of study subject. [57]Population of this study is all of the first grade of MA Darul Ulum Palangka Raya in which are two class, A, B. The number is 67 students.

Table 1.2
Number of Population

No.	Classes	Number of Students
1.	XA	30
2.	XB	37
Total		67

2. Sample of Study

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[56] Donald Ary, Introduction to Research in Education (edition 8), wadsworth:Cengange, 2010, p.457.
[57] Suharsismi Arikunto, *Prosedur Penelitian Suatu Pendekatan Praktek,* Jakarta: Rineka Cipta, 2002, p.108.

Sample is a part or subset of the population that are large or small.[58] If the subject of the study is less than one hundred, it is better to take all of the subjects. All of the population become the sample or it is called population study.[59]

In this study, the writer use population study.

Table 1.3
The Sample distribution of the study

Class	Sum of Subject
A	30
B	37
Total	$\sum$ 67 students

C. Data Collecting Procedure

On quantitative research, data processing is generally carried out through checking stage (editing), the process of identity (coding), and the process of tabulating.[60]

The procedures are explained as follows:

1. Editing

   It was checked to the students name based on the working sheet. Then, the result of the students' answer are collected.

2. Coding

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[58] Nurul Zuriah, *Metodologi Penelitian Sosial dan Pendidikan,* Jakarta: PT.Bumi Aksara, 2006, p.128

[59] Suharsimi Arikunto, *Prosedur Peneitian Suatu Pendekatan Praktek*, Jakarta: Rineka Cipta, 2002, p.108.

[60] M. Burhan Bungin*, Metodologi Penelitian Kuantitatif*: *Komunikasi, Ekonomi, dan Kebijakan Publik Serta Ilmu-ilmu Sosial Lainnya,* Jakarta: Kencana Prenada Media Group, 2006, p.164.

The real name of the students are changed by alphabets such as A1, A2, A3 and so on. It is done to keep the privacy of the students or it was facilitated in administering the result of test and to avoid subjectivity.

3. Tabulating

After the writer got the score, the next stop is tabulation. Tabulation is applied to arrange the facts or figures in the form of a table or list.

D. Technique of Data Collection

1. Test

In order to get the data, the writer perform a test.

"Test is a way to conduct research in the form of a task or a series thatshould be done by a child or group of a children, resulting in a value of the child's behavior or performance which can be compared with the value achieved by other children or with the default values set.[61]

The writer gave test items to the students. The type of test was essay test. This technique is used to find out the students' problems by analyzing the students' wrong answers in using relative pronoun in sentence.

2. Documentation

Documentation is every written material or film.[62] It make support to collect the data. Furthermore, the documentation will be collected are :

1) The list names of the tenth grade students of MA Darul Ulum Palangka Raya as subject of the research.

2) Photo of doing tests to the students.

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[61] Wayan Nurkencana, dan P.P.N. Sumarkana, *Evaluasi Pendidikan,* Surabaya: Usaha Nasional, 1986, p 25.

[62] Lexy J. Moelong, *Metodologi Penelitian Kualitatif,* Bandung: Remaja Rosdakarya, 2004, p.86.

3) Data of location of MA Darul Ulum Palangka Raya as the research location.

E. Instrumentation Development

In this study, the writer intended to investigate the students, problem in using relative pronoun in sentence to form relative clause made by the tenth grade students of MA Darul Ulum Palangka Raya. Therefore, in collecting the data, the writer used a test. The material of the test items were taken from the English Book for the tenth grade students of SMA. written by Eudia Grace and Th. M. Sudarwati and Intisari tata bahasa Inggris kontemporer written by Hotben D. lingga and Lim Ali utomo. The test was developed in accordance with the curriculum ktsp 2006. The content of the test was specified as follows: the use relative pronoun in sentence namely: who, whom, which, whose.

In this case, essay test items were used as the instrument to collect the data needed. There were twenty items. Each item was scored five for the correct answer., so the students would get one hundred in answering all items correctly.

F. Instrumentation try out

To know the effectiveness of the test instrument was given try out to the students. Before giving test items, the firstly it determined validity of them. In this research, the instrument was done try out at MA Miftahul Jannah. The test items were given to eighteen students. From the result of try out, it was found out the instrument of reliability and index of difficulty.

G. Instrumentation Validity

"The validity of a test is the extent to which it measures, what is supposed to measure, and nothing else."[63]

According to Harrison that there are many different kinds of validity but only two are vital for the teacher in setting his/her own test namely content validity and construct validity. [64]

1. Content Validity

The instrument being tested should be corellated to course which have already taught to the tenth grade students of MA Darul Ulum Palangka Raya based on English book written by Th. M. Sudarwati and Eudia Grace.

It meant that the instrument was valid on its content since the test was based on the curriculum used at the school. The table below would show the sppecification of content validity.

Table 1.4

Specification of Content Validity

Syllabus content	Number of items	Percentage of the test items
Who	5	20%
Whom	5	20%
Which	5	20%
Whose	5	20%

2. Construct Validity

Construct validity referred to the suitabilityof the test with the ability and the skill of the students. It means that a matter of how instrument ability could

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[63] J.B Heaton, *Writing English Language Test,* England: Longman,1974, p.172.

[64] Catharina Elmayantie, *A Study on Ability in Using Subordinators to Form Adverb of Time Clauses By the Second Year Students of SMU Panantiring in Tangkiling*, Thesis, Palangka Raya: The State of University of Palangka Raya, 2001, p.24, t.d

cover indicator with the materials to be measured. As it had been mentioned that there were four kinds of relative pronoun to form sentence in relative clause to be measured. Sao the tesrt should be related to these elements.

H. Instrumentation Reliability

In this study, the writer applied this method to estimate the reliability of the instrument as proposed by Arikunto [65],which indicating the formula of product moment as follows:

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

In which :
r   = reliability
N   = number of subject
X   = first test score
Y   = second test score
$\sqrt{\ }$ = squared root

To know the reliability of this study, the writer presented as follows:

Table 1.5
The Result of The First and Second Test of Try Out

No.	Test 1 (X)	Test 2 (Y)	X²	Y²	XY

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[65] Suharsimi Arikunto, *Dasar-dasar Evaluasi Pendidikan*, Jakarta: Bumi Aksara, p. 138.

1	55	50	3025	2500	2750
2	50	50	2500	2500	2500
3	80	80	6400	6400	6400
4	50	55	2500	3025	2750
5	70	70	4900	4900	4900
6	55	55	3025	3025	3025
7	55	45	3025	2025	2475
8	65	60	4225	3600	3900
9	50	55	2500	3025	2750
10	45	50	2025	2500	2250
11	55	50	3025	2500	2750
12	40	50	1600	2500	2000
13	45	40	2025	1600	1800
14	60	65	3600	4225	3900
15	50	55	2500	3025	2750
16	55	55	3025	3025	3025
17	50	60	2500	3600	3000
18	50	50	2500	2500	2500
N=18	$\sum x=980$	$\sum y=995$	$\sum x^2=54900$	$\sum y^2=56475$	$\sum xy=55425$

Then the sums obtained in the table abovewere included into the followimg formula :

$$r = \frac{N\left(\sum xy\right) - \left(\sum x\right)\left(\sum y\right)}{\sqrt{\left\{N\left(\sum x^2\right) - \left(\sum x\right)^2\right\}\left\{N\left(\sum y^2\right) - \left(\sum y\right)^2\right\}}}$$

$$r = \frac{18\left(55425\right) - \left(980\right)\left(995\right)}{\sqrt{\left\{18\left(54900\right) - \left(980\right)^2\right\}\left\{18\left(56475\right) - \left(995\right)^2\right\}}}$$

$$r = \frac{997650 - 975100}{\sqrt{\left(988200 - 960400\right)\left(1016550 - 990025\right)}}$$

$$r = \frac{22550 - 975100}{\sqrt{27800 \times 26525}} \qquad = \frac{22550}{\sqrt{737395000}}$$

$$r = \frac{22550}{27155.018}$$

$$r = 0.83$$

Based on the result above, the value of instrument reliability on the first and second scores attained in the try out was 0.83. In line with this, the data calculated above was higher than the score on the table of r product moment. So, it could be said that the instrument of relative pronoun was reliable.

I. Index of Difficulty

The index of difficulty was used to known how difficult or easy of the test items. to know the level of the difficulty of test, the writer used formula as follows:

$$\text{F. V} = \frac{R}{N}$$

Notes:
F. V   = Index of difficulties
R   = The number of the correct answer
N   = The total of students [66]

To interpret the index of difficulty, the writer used Robert L. Thorndike and Elizabeth Hagen's interpretation.[67]

P<0.30   = Difficult
P 0.30-0.70   = Fair
P>0.70.   = Easy [68]

J. Data Analysis Procedure

The writer analyzed the data with a few of ways, they are:

1. The writer collected the result of tests.

2. The writer giving score for the students that suitable with the criteria.

3. The writer arrange the score into table.

4. The writer determined the mean score with the formula:

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[66] Anas Sudijono, *Pengantar Evaluasi Pendidikan*, Jakarta: PT. Raja Grafindo Persada, 2003, p. 172.
[67]*Ibid.*, p. 372.
[68] Suharsimi Arikunto, *Prosedur Penelitian Suatu Pendekatan Praktek*, Jakarta: Rineka Cipta, 1999, p. 210.

$$Mx = \sum \frac{FX}{N}$$

Notes:
Mx = Mean
F = Frequency of score
X = The score
N = Number of test.[69]

5. Calculating the percentage of frequency distribution of students' ability and students' problem by using the formula as follows:

$$P = \frac{f}{N} \text{ x } 100\%$$

P = percentage
F = frequency
N = total students

6. Tabulating, it was illustrared

7. Analyzing the students' answer to find out the students' difficulties through the wrong answers.

8. Summarizing the result of the study.

K. Validity of the study

There were some efforts to support the validity of the study, they were as follows:

1. The sample of this study was total sample. So, any bias resulted from the subject of the study could be eliminated.

2. Prior to conduct this study, research instrument was validated.

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[69]Anas Sudijono, *Pengantar Statistik Pendidikan*, p.85.

3. Regarding to the data analysis, it used a formula that was well-known and often used by other researchers.

Based on KTSP Curriculum. Lisstening, reading, speaking, writing has been taught to the students.