



**THE EFFECT OF COOPERATIVE INTEGRATED  
READING AND COMPOSITION (CIRC) STRATEGY ON  
STUDENTS' READING COMPREHENSION AT XI  
GRADE OF MAN 1 PADANGSIDIMPUAN**

**A THESIS**

*Submitted to the State Institute for Islamic Studies Padangsidimpuan  
as a Partial Fulfillment of the Requirement for the Degree of Graduate of Islamic  
Education (S.Pd.I) in English*

**By:**

**LONNI NUR IFFAH NASUTION**

**Reg. No. 10 340 0010**

**ENGLISH EDUCATION DEPARTMENT**

**TARBIYAH AND TEACHER TRAINING FACULTY  
STATE INSTITUTE FOR ISLAMIC STUDIES  
PADANGSIDIMPUAN**

**2015**



**THE EFFECT OF COOPERATIVE INTEGRATED  
READING AND COMPOSITION (CIRC) STRATEGY ON  
STUDENTS' READING COMPREHENSION AT XI  
GRADE OF MAN 1 PADANGSIDIMPUAN**

**A THESIS**

*Submitted to the State Institute for Islamic Studies Padangsidempuan  
as a Partial Fulfillment of the Requirement for the Degree of Graduate of Islamic  
Education (S.Pd.I) In English*

**By:**

**LONNI NUR IFFAH NASUTION  
Reg. No. 10 340 0010**

**ENGLISH EDUCATION DEPARTMENT**

**TARBIYAH AND TEACHER TRAINING FACULTY  
STATE INSTITUTE FOR ISLAMIC STUDIES  
PADANGSIDIMPUAN**

**2015**





**THE EFFECT OF COOPERATIVE INTEGRATED READING  
AND COMPOSITION (CIRC) STRATEGY ON STUDENTS'  
READING COMPREHENSION AT XI GRADE OF MAN 1  
PADANGSIDIMPUAN**

**A THESIS**

*Submitted to the State Institute for Islamic Studies Padangsidimpuan  
as a Partial Fulfillment of the Requirement for the Degree of Graduate of  
Islamic Education (S.Pd.I) In English*

**By:**

**LONNI NUR IFFAH NASUTION**

**Reg. No. 10 340 0010**

**ENGLISH EDUCATION DEPARTMENT**



**Advisor I**

*Ray Lubis*

**RAYENDRIANI FAHMEI LUBIS, M.Ag**  
NIP. 19710510 200003 2 001

**Advisor II**

*Sojuangon Rambe*

**SOJUANGON RAMBE, S.S., M.Pd**  
NIP. 19790815 200604 1 003

**TARBİYAH AND TEACHER TRAINING  
STATE INSTITUTE FOR ISLAMIC STUDIES  
PADANGSIDIMPUAN  
2015**

Term : Thesis  
a.n. Lonni Nur Iffah Nasution

Padangsidempuan, 25<sup>th</sup> February 2015

To :  
Dean Tarbiyah and Teacher Training  
Faculty  
in –  
Padangsidempuan

Appendix : 7 (seven) Exemplars

Assalamu'alaikumWr. Wb.

After reading, studying and giving advice for necessary revise on thesis belongs to Lonni Nur Iffah Nasution, entitle "*The Effect of Cooperative Integrated Reading and Composition (CIRC) Strategy on Students' Reading Comprehension at Grade XI 2014/2015 MAN 1 Padangsidempuan*", we approved that the thesis has been acceptable to complete the requirement to fulfill for the degree of Graduate of Islamic Educational (S.Pd.I) in English, Tarbiyah and Teacher Training Faculty in IAIN Padangsidempuan.

Therefore, we hope that the thesis will soon be examined in front of the thesis examiner team of English Department of Tarbiyah and Teacher Training Faculty IAIN Padangsidempuan. That is all and thank you for the selection.

Wassalamu'alaikumWr. Wb.

**Advisor I**



**Rayendriani Fahmei Lubis, M. Ag**  
NIP. 19710510 200003 2 001

**Advisor II**



**Sojuangan Rambe, S.S., M. Pd.**  
NIP. 19790815 200604 1 003

## **DECLARATION OF SELF THESIS COMPLETION**

The name who signed here:

Name : **LONNI NUR IFFAH NASUTION**  
Registration Number : 10 340 0010  
Faculty/Department : Tarbiyah and Teacher Training Faculty/TBI-1  
The Title of a Thesis : The Effect of Cooperative Integrated Reading and Composition (CIRC) Strategy on Students' Reading Comprehension at Grade XI of MAN 1 Padangsidimpuan.

I hereby declare that I have arranged and written the thesis by myself, without asking for illegal help from others except the guidance from advisors, and without doing plagiarism as it is required in Students' Ethic Code of IAIN Padangsidimpuan article 14. Verse 2.

I do this declaration truthfully. If there is deceitfulness and incorrectness regarding to this declaration in the future, I will be willing to get punishment as it is required in Students' Ethic Code of IAIN Padangsidimpuan, article 19 verses 4, that is to cancel academic degree disrespectfully, and other punishment regarding norms and legal law.

Padangsidimpuan, 25<sup>th</sup> February 2015

Declaration Maker



**LONNI NUR IFFAH NASUTION**  
Reg. No: 10 340 0010



## AGGREEMENT PUBLICATION OF FINAL TASK FOR ACADEMIC CIVITY

---

As academic civity of the State Institute for Islamic Studies Padangsidimpuan, the name who signed here:

Name : LONNI NUR IFFAH NASUTION  
Nim : 10 340 0010  
Faculty/Department : Tarbiyah and Teacher Training Faculty/TBI-1  
Kind : Thesis

To develop science and knowledge, declare for giving to the State Institute for Islamic Studies Padangsidimpuan **Non-exclusive Royalty Right** on my thesis with the title:

**“THE EFFECT OF COOPERATIVE INTEGRATED READING AND COMPOSITION (CIRC) STRATEGY ON STUDENTS’ READING COMPREHENSION AT XI GRADE OF MAN 1 PADANGSIDIMPUAN”**

With all the sets of equipment (if needed). Based on this Non-exclusive Royalty Right, the State Institute for Islamic Studies Padangsidimpuan has the right to save, format, organize in database form, keep and publicate my final task as long as I determine as a writer and own creative right.

Thus, this statement is made trully.

Made in : Padangsidimpuan

Date : 25<sup>th</sup> February 2015

The Signed



LONNI NUR IFFAH NASUTION

## EXAMINERS

### SCHOLAR MUNAQOSYAH EXAMINATION

Name : LONNI NUR IFFAH NASUTION

Reg. No : 10.340.0010

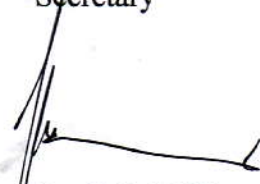
Thesis : THE EFFECT OF COOPERATIVE INTEGRATED READING AND COMPOSITION (CIRC) STRATEGY ON STUDENTS' READING COMPREHENSION AT XI GRADE OF MAN 1 PADANGSIDIMPUAN

Chief



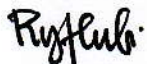
Rayendriani Fahmei Lubis, M.Ag  
NIP. 19710510 200003 2 001

Secretary




Zainuddin, S.S., M.Hum  
NIP. 19760610 200801 1 016


Members




1. Rayendriani Fahmei Lubis, M.Ag  
NIP. 19710510 200003 2 001



2. Zainuddin, S.S., M.Hum  
NIP. 19760610 200801 1 016



3. Drs. Fitriadi Lubis, M.Pd  
NIP. 19620917 199203 1 002



4. Sojuangon Rambe, S.S., M.Pd  
NIP. 19790815 200604 1 003

Proposed:

Place : Padangsidempuan  
Date : February, 25<sup>th</sup> 2015  
Time : 09.00 WIB - Finish  
Result/Mark : 76.37 (B)  
Cumulative Achievement Index : 3.54  
Predicate : Cumlaude



**RELIGION MINISTRY**  
**THE STATE INSTITUTE FOR ISLAMIC STUDIES PADANGSIDIMPUAN**  
**TARBIYAH AND TEACHER TRAINING FACULTY**  
**Alamat: Jl. H.T. Rizal Nurdin Km. 4,5 Telp. (0634) 22080 Sihitang 22733 Padangsidimpuan**

## **LEGALIZATION**

**Thesis : THE EFFECT OF COOPERATIVE INTEGRATED READING AND COMPOSITION (CIRC) STRATEGY ON STUDENTS' READING COMPREHENSION AT XI GRADE OF MAN 1 PADANGSIDIMPUAN**

**Written By : LONNI NUR IFFAH NASUTION**

**Reg. No : 10.340.0010**

The Thesis had been accepted as a partial fulfillment of the requirement for the degree of Graduate of Islamic Education (S.Pd.I) in English



Padangsidimpuan, 27 April 2015

Dean

**H. ZULHIMMA, S. Ag., M. Pd.**  
**NIP. 19720702 199703 2 003**



## ACKNOWLEDGEMENT

بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

First of all, I would like to say thank you to Allah the Almighty who has given me time and healthy in writing and finishing this thesis. Next, I do not forget to send Shalawat to our prophet Muhammad SAW who has brought us from the darkness into the light.

This thesis is presented to the English Education Department of the State Institute for Islamic Studies (IAIN) Padangsidempuan as a Partial Fulfillment of the Requirement for the Degree of Graduate of Islamic Education (S.Pd.I)

In finishing this thesis, I got a lot of advices, suggestions, and aids from the following;

1. Mrs. Rayendriani Fahmei Lubis, M.Ag as the first advisor who has given suggestions and helps in writing this thesis, May God bless her.
2. Mr. Sojuangon Rambe, SS., M. Pd., as the second advisor who has helped, supported and suggested me to finish this thesis.
3. Mrs. Hj. Zulhijma, S.Ag.,M.Pd., the Dean of Tarbiyah Faculty.
4. Mrs. Rayendriani Fahmei Lubis, M.Ag., the Leader of English Department.
5. IAIN Padangsidempuan Librarian (Yusri Fahmi, S. Ag., S. S., M. Hum) and the staffs for their cooperative and permission to use their books.
6. My beloved parent, (Drs. Zulkifli Nasution and Dra. Erni Batubara) who taught me how to be patient to face this life, my young brother (Abdul Rasyid Nasution,

and Mhd. Abi Syubban Nasution), my young sister (Roisah Nasution, AmKeb., Inayati Hasni Nasution, Arfah Adiani Nasution and Nur Malina Nasution).

7. Headmaster , English teacher and also students of MAN 1 Padangsidimpuan who helped me to completed my research.
8. My beloved friends Dasima, Yusi, Ermina, Indah, Putri, Shiela, Resdila, Yuli, Samrah and Tika
9. All the people who have helped me to finish my study that I can't mention one by one. May Allah, the Almighty bless them all, Amin.

Finally, I realize that there must be some weaknesses in this thesis. Therefore, I welcome to all good and value critics that can improve this thesis.

Padangsidimpuan, 25 February 2015

The Researcher,



**LONNI NUR IFFAH NASUTION**  
**NIM. 10 340 0010**

**Name** : LONNI NUR IFFAH NASUTION  
**Register Number** : 10 340 0010  
**Faculty** : Tarbiyah and Teacher Training  
**Department** : English Education (TBI-1)  
**The Title of the Thesis** : The Effect of Cooperative Integrated Reading and  
Composition (CIRC) Strategy on Students'  
Reading Comprehension of Descriptive Text at  
XI Grade of MAN 1 Padangsidimpuan

### **ABSTRACT**

This research focused about the effect of CIRC (Cooperative Integrated Reading and Composition) Strategy on Students' Reading Comprehension in Descriptive Text at Grade XI MAN 1 Padangsidimpuan. The problems of this research were most of the student still get low grade with average 74; meanwhile the standard of English competency in this school is 78, and the students were lack motivation in reading comprehension and seldom to practice and also they didn't have the strategy. Finally most of the students failed in reading comprehension. The purpose of this research was to find out the effect of CIRC (Cooperative Integrated Reading and Composition) Strategy on Students' Reading Comprehension in Descriptive Text at Grade XI MAN 1 Padangsidimpuan.

This research employed experimental research. The population of this research was the XI grade of MAN 1 Padangsidimpuan. The total of population were six classes. Then, the sample of the research was 2 classes, experiment class (XI IPA-2) and control class XI IPA-1). It was taken after conducting normality and homogeneity test. To collect the data, researcher used test for measuring students' Reading Comprehension achievement. To analysis the data, the researcher used t-test.

Based on the result of the research, researcher found that the result of experimental class was higher than control class ( $80.95 > 75.85$ ), and the score of  $t_{count}$  was bigger than  $t_{table}$  ( $6.98 > 2.021$ ). It means that the hypothesis alternative ( $H_a$ ) was accepted. It was concluded that there was significant effect of CIRC (Cooperative Integrated Reading and Composition) Strategy on Students' Reading Comprehension of Descriptive Text at Grade XI MAN 1 Padangsidimpuan.



## Appendix 1

### Experimental Class

#### RENCANA PELAKSANAAN PEMBELAJARAN (RPP)

Nama Sekolah : MAN 1 Padangsidempuan

Mata Pelajaran : Bahasa Inggris

Kelas/Semester : XI IPA 2 / I (ganjil)

Alokasi Waktu : 4 x 45 menit (2 x Pertemuan)

**Standar Kompetensi** : Memahami makna dalam esei pendek sederhana berbentuk descriptive untuk berinteraksi dengan lingkungan sekitar.

**Kompetensi dasar** : Membaca nyaring bermakna teks fungsional dan esei pendek sederhana berbentuk descriptive dengan menggunakan ragam bahasa tulis secara akurat, lancar dan berterima untuk berinteraksi dengan lingkungan sekitar.

Learning Strategy : Cooperative Integrated Reading and Composition (CIRC)

Jenis teks : Descriptive Text

Aspek/Skill : Membaca

#### 1. Indikator :

- a. Membaca dan memahami teks descriptive
- b. Mengidentifikasi topik dalam teks descriptive
- c. Mengidentifikasi ide pokok dalam teks descriptive
- d. Memahami informasi yang penting dalam teks descriptive
- e. Memahami kosa kata yang terdapat dalam esei pendek berbentuk descriptive
- f. Menyimpulkan informasi yang terdapat dalam teks descriptive
- g. Menjawab pertanyaan berdasarkan informasi yang ada dalam esei pendek berbentuk descriptive

## **2. Tujuan Pembelajaran:**

Pada akhir pembelajaran siswa diharapkan:

1. Siswa mampu membaca dan memahami teks descriptive
2. Siswa mampu Mengidentifikasi topik dalam teks descriptive
3. Siswa mampu Mengidentifikasi ide pokok dalam teks descriptive
4. Siswa mampu Memahami informasi yang penting dalam teks descriptive
5. Siswa mampu Memahami kosa kata yang terdapat dalam esei pendek berbentuk descriptive
6. Menyimpulkan informasi yang terdapat dalam teks descriptive

## **3. Materi Pembelajaran:**

Teks monolog berbentuk descriptive

## **4. Metode Pembelajaran : CIRC (Cooperative Integrated Reading and Composition ) Strategy**

## **5. Langkah-langkah Kegiatan**

### **a. Pendahuluan**

Apersepsi:

Tanya jawab mengenai teks tulis fungsional dan esai pendek sederhana berbentuk descriptive yang berkaitan dengan lingkungan terdekat.

Motivasi:

Menjelaskan pentingnya materi yang akan dipelajari berikut kompetensi yang harus dikuasai siswa.

### **b. Kegiatan inti**

Dalam kegiatan inti :

1. Peneliti menyajikan bahan ajar yang berhubungan dengan pelajaran
2. Peneliti Menjelaskan Strategi CIRC (Cooperative Integrated Reading and Composition) berikut dengan langkah-langkahnya.
3. Membentuk kelompok yang anggotanya 4 orang

4. Peneliti memberikan teks sesuai dengan topik pembelajaran
5. Siswa bekerja sama saling membacakan dan menemukan ide pokok, main idea, informasi yang penting, vocabulary dan kesimpulan, dan memberikan tanggapan terhadap teks tersebut dan menuliskannya.
6. Siswa mempresentasikan/membacakan hasil kelompok tersebut
7. Peneliti membuat kesimpulan bersama.

**c. Penutup**

Dalam kegiatan penutup, Guru:

1. Guru bersama siswa memberi simpulan tentang materi yang dipelajari dan mencatat informasi yang penting.
2. Memberikan penilaian berupa latihan-latihan untuk mengetahui sejauh mana kemampuan siswa.

**6. Alat/Sumber Belajar:**

- a. Buku yang relevan
- b. Kamus
- c. Papan Tulis
- d. Spidol
- e. Penghapus

**7. Penilaian**

<b>Indikator pencapaian kompetensi</b>	<b>Teknik penilaian</b>	<b>Bentuk instrument</b>	<b>Instrument soal</b>
1. Mengidentifikasi topik yang terkait dalam teks berbentuk descriptive. 2. Mengidentifikasi kalimat pokok yang terdapat dalam teks. 3. Mengidentifikasi informasi penting yang terdapat dalam	Tes tulisan	Pilihan Ganda	Read the text carefully and then choose the correct answer based on the text by crossing a, b, c, or d.



teks.			
4. Memahami kosa-kata yang terdapat dalam teks.			
5. Menarik kesimpulan yang ada dalam teks.			

a. Pedoman penilaian

- 1) Jumlah skor maksimal keseluruhan adalah 100.
- 2) Setiap jawaban yang benar diberi skor 5. Jumlah skor keseluruhan 5x20 =100. (Test Tertulis)
- 3) Nilai Maksimal =  $\frac{\text{Jumlah jawaban yang benar}}{\text{Jumlah soal}}$

b. Instrument: Answer the Questions based on the text!

c. Rubrik Penilaian

Uraian	Skor
Jawaban benar	5
Jawaban salah	0

Padangsidempuan, November 2014

**Validator**

**Researcher**

**Sojuangon Rambe., S. S., M. Pd**  
**NIP. 19790815 200604 1 003**

**Lonni Nur Iffah Nasution**  
**10 340 0010**

Padangsidempuan, November 2014

Mengetahui  
Kepala Sekolah  
MAN 1 Padangsidempuan

Peneliti

**Drs. H. M. Basyri Nasution**  
**NIP. 19591009 1986003 1005**

**Lonni Nur Iffah Nasution**  
**NIM. 10 340 0010**



## Appendix 2

### Control Class

#### RENCANA PELAKSANAAN PEMBELAJARAN (RPP)

Nama Sekolah : MAN 1 Padangsidempuan

Mata Pelajaran : Bahasa Inggris

Kelas/Semester : XI IPA 1 / I (ganjil)

Alokasi Waktu : 4 x 45 menit (2 x Pertemuan)

**Standar Kompetensi** : Memahami makna dalam esei pendek sederhana berbentuk descriptive untuk berinteraksi dengan lingkungan sekitar.

**Kompetensi dasar** : Membaca nyaring bermakna teks fungsional dan esei pendek sederhana berbentuk descriptive dengan menggunakan ragam bahasa tulis secara akurat, lancar dan berterima untuk berinteraksi dengan lingkungan sekitar.

Jenis teks : descriptive Text

Aspek/Skill : Membaca

#### 1. Indikator :

- a. Membaca dan memahami teks descriptive
- b. Mengidentifikasi topik dalam teks descriptive
- c. Mengidentifikasi ide pokok dalam teks descriptive
- d. Memahami informasi yang penting dalam teks descriptive
- e. Memahami kosa kata yang terdapat dalam esei pendek berbentuk descriptive
- f. Menyimpulkan informasi yang terdapat dalam teks descriptive
- g. Menjawab pertanyaan berdasarkan informasi yang ada dalam esei pendek berbentuk descriptive

## **2. Tujuan Pembelajaran:**

- a. Siswa mampu membaca dan memahami teks descriptive
- b. Siswa mampu Mengidentifikasi topik dalam teks descriptive
- c. Siswa mampu Mengidentifikasi ide pokok dalam teks descriptive
- d. Siswa mampu Memahami informasi yang penting dalam teks descriptive
- e. Siswa mampu Memahami kosa kata yang terdapat dalam esei pendek berbentuk descriptive
- f. Menyimpulkan informasi yang terdapat dalam teks descriptive
- g. Siswa mampu Menjawab pertanyaan berdasarkan informasi yang ada dalam esei pendek berbentuk descriptive

## **3. Materi Pembelajaran:**

Teks monolog berbentuk descriptive

## **4. Metode Pembelajaran : Conventional Strategy**

## **5. Langkah-langkah Kegiatan**

### **a. Pendahuluan**

Apersepsi:

Tanya jawab mengenai teks tulis fungsional dan esai pendek sederhana berbentuk descriptive yang berkaitan dengan lingkungan terdekat.

Motivasi:

Menjelaskan pentingnya materi yang akan dipelajari berikut kompetensi yang harus dikuasai siswa.

### **b. Kegiatan inti**

Dalam kegiatan inti, Guru:

- a) Guru menyajikan bahan ajar yang berhubungan dengan pelajaran
- b) Menggunakan alat Visualisasi, seperti papan tulis atau media yang tersedia untuk menjelaskan pokok bahasan yang disampaikan.
- c) Guru menjelaskan arti, karakteristik dan isi dari teks descriptive.

- d) Guru memberikan contoh dan penjelasan contoh dari descriptive teks dan komponen-komponen teks descriptive.
- e) Membiasakan peserta didik membaca dan menulis yang beragam melalui tugas-tugas tertentu yang bermakna
- f) Guru menugaskan siswa untuk membaca teks dalam memahami teks yang dipelajari.
- g) Guru memberikan penjelasan tentang kosa-kata dan tata bahasa yang berkaitan dengan teks descriptive yang dibaca.
- h) Memfasilitasi terjadinya interaksi antarpeserta didik dan guru, lingkungan dan lainnya.
- i) Melibatkan peserta didik secara aktif dalam setiap kegiatan pembelajaran.
- j) Guru memberikan pertanyaan-pertanyaan tentang isi teks untuk menguji pemahaman siswa.

**c. Penutup**

Dalam kegiatan penutup, Guru:

- 1) Guru bersama siswa Memberi simpulan tentang materi yang dipelajari dan mencatat informasi yang penting.
- 2) Memberikan penilaian berupa latihan-latihan untuk mengetahui sejauh mana kemampuan siswa.

**6. Alat/Sumber Belajar:**

- a. Buku yang relevan
- b. kamus
- c. Papan Tulis
- d. Spidol
- e. Penghapus

**7. Penilaian**

<b>Indikator pencapaian kompetensi</b>	<b>Teknik penilaian</b>	<b>Bentuk instrument</b>	<b>Instrument soal</b>
1. Mengidentifikasi topik yang terkait dalam teks berbentuk			Read the text carefully and then choose the

descriptive. 2. Mengidentifikasi kalimat pokok yang terdapat dalam teks. 3. Mengidentifikasi informasi penting yang terdapat dalam teks. 4. Memahami kosa-kata yang terdapat dalam teks. 5. Menarik kesimpulan yang ada dalam teks.	Tes tulisan	Pilihan Ganda	correct answer based on the text by crossing a, b, c, or d.
---	-------------	---------------	---

a. Pedoman penilaian

- 1) Jumlah skor maksimal keseluruhan adalah 100.
- 2) Setiap jawaban yang benar diberi skor 5. Jumlah skor keseluruhan 5x20 =100. (Test Tertulis)
- 3) Nilai Maksimal =  $\frac{\text{Jumlah jawaban yang benar}}{\text{Jumlah soal}}$

b. Instrument: Answer the Questions based on the text!

c. Rubrik Penilaian

Uraian	Skor
Jawaban benar	5
Jawaban salah	0

Padangidimpuan, November 2014

**Validator**

**Researcher**

**Sojuangon Rambe., S. S., M. Pd**  
**NIP. 19790815 200604 1 003**

**Lonni Nur Iffah Nasution**  
**10 340 0010**



Padangsidimpuan, Januari 2015

Mengetahui  
Kepala  
MAN 1 Padangsidimpuan

Guru Bidang Study

**Afnita Warni, S.Pd**  
**NIP. 197704232005012004**

## Learning Material

### A. Descriptive Text:

Communicative Purpose: to describe and reveal a particular person, place, or thing.

#### 1. Generic Structure of Descriptive Text

- a. Identification: Identifies phenomenon (person, place, or thing) that will be described.
- b. Description: Describes parts, qualities, and characteristics.

#### 2. Language Features

- a. Specific participant
- b. Use simple present tense
- c. Using Action verb;
- d. Using adjective to explain noun

#### 3. Example of Descriptive Text

Identification ⇨ Macquarie University is one of the largest universities in Australia.  
This year, in 2004, it celebrates its 40th anniversary.

Description ⇨ The university is located at the North Ryde Greenbelt, Sydney, where the New South Wales government sets aside 135 hectares for the institution. In 1964, Macquarie area was a rural retreat on the city fringe, but today the campus and its surroundings have evolved beyond recognition. The North Ryde District has grown into a district of intensive occupation anchored by a vibrant and growing university.

Blessed with a fortunate location and room to breathe, Macquarie can be proud of that careful planning that retains and enriches the university's most attractive natural features. A pleasing balance between buildings and planting is evident across the campus. This emphasis on the importance of landscape has

created images of Macquarie as a place that members of the university are most likely to pleurably recollect.

One of the highlights of the landscape is the Mars Creek zone. It comprises landscaped creek sides and valley floor, a grass amphitheatre, and artificial lake surrounded by rocks and pebbles, native plants and eucalypts.

Today, a railway station is under construction. In three years 1 time, Macquarie will be the only university in Australia with a railway station on site. Macquarie is poised to be the most readily accessible in Sydney region by rail and motorway, yet retaining its beautiful site.

Answer the questions above!

1. The text above tells about....
  - a. Cambridge University
  - b. Macquarie University
  - c. Oxford University
  - d. University of Australia
2. Where is the exact location of Macquarie University?
  - a. It is located in Australia
  - b. It is located in at the south Ryde Greenbelt, Sydney
  - c. It is located at the North Ryde Greenbelt, Sydney
  - d. It is located at Sydney
3. What is the main idea of paragraph 2?
  - a. It is located at the North Ryde Greenbelt, Sydney
  - b. Macquarie University is one of the largest universities in Australia
  - c. Macquarie area was a rural retreat on the city fringe
  - d. One of the highlights of the landscape is the Mars Creek zone
4. The word "it" in paragraph 1 refers to...
  - a. Australia

- b. Universities in Australia
  - c. Macquarie University
  - d. Largest University
5. Based on the text above, it can be concluded that...
- a. Macquarie is

## Appendix 3

### Instrument Pre Test

**Nama :**

**Kelas :**

**The following text is for question 1 to 3**

The Baliem Valley Cultural is an annual festival event in which Papuan tribes renowned for their histories of war and violence. The festival reenacts mock battles among tribes as a cultural attraction for tourists. It is held at Muliama village, Asolagaima district, about 20 kilometers from mountainous Wamena, capital of Jayawijaya regency in Papua. The event offers tourist with 5 an excellent reason to visit charming Wamena.

The festival is first held as a way to transition the tribes away from wars that has claime hundreds of lives. These tribal wars continue today but are no longer accompanied by tears and bloodshed. The idea of turning tribal-war brutality into a cultural attraction has proven successful and has brought in 10 material profit to the Wamena's community.

These year's cultural event is organized to coincide with Indonesia's August 17 Independence Day celebrations. Hundreds of residents from the districts in Jayawijaya regency and its surrounding areas took part in this year's 19<sup>th</sup> Balliem Festival. Oil and clay were applied to the tall and burly bodies of the tribal warriors to make motifs. Meanwhile, charcoal powder was rubbed on their faces with the result that the warriors sparkled in the sunshine. These people were the "traditional soldiers". Wearing their *koteka*, they held spears in their left hands and bows and arrows in their right. Their faces were fierce looking. Adding to their ferocity were hog fangs, measuring about 20 centimeters in length, which hung from their nostrils. The two tribes' "soldier" acted out the battle. The "soldier" furrowed their eye-brows and looked ready to pounce on their enemies. They aimed their arrows at their enemy, then at the sky and finally at the audience, while calling out their enemies using the traditional chant: "Hu....hu....hu...." The warriors assumed their battle formations in an arena in the beautiful Baliem Valley.

As in previous years, a number of attractions and competitions were held on four consecutive days (August 8-11, 2008). The festival concluded with a parade of decorated vehicles around Wamena city.

1. Text above tells about...
  - a. Festival Event
  - b. Balliem Valley
  - c. Independence Day Celebration



- d. Koteka
- 2. The main idea of third paragraph is.....
  - a. How to Baliem Valley festival changed a war into a dance
  - b. That there were many fierce wars in the city of Wamena
  - c. Cultural event was organized to coincide with Indonesia's Independence Day celebration
  - d. That the Baliem Valley festival was concluded by a parade
- 3. All of the following are what the "soldiers" did in the festival, except....
  - a. They wore koteka
  - b. They head spears
  - c. They pounced on their enemies
  - d. They held bows, and arrows

**The following text is for question 4 to 7**

**Losari Beach** is a beautiful beach located in the western part of Makassar, South Sulawesi. The beach has been an icon of Makassar for years and well-known for its beautiful sunset scenery. Many people spend their afternoon and evening times enjoying the panorama when the reddish sun looks like to sink to the sea.

Several years ago, Losari Beach was popular for its culinary providing traditional and modern cuisines. The culinary was located along the coast, approximately one mile length of the table and stalls selling various menus. For this reason, Losari Beach was also called as "the world's longest table". But, previously, the government of Makassar has moved and relocated it to the southern part of Losari Beach.

Located near the center of Makassar city, Losari Beach is easy to access. It only takes 10 minutes to drive from the harbor of Makassar and 30 minutes to drive from Sultan Hasanuddin Airport. Residents in Makassar usually go to Losari Beach by car, motorcycle or on foot.

- 4. What is the main idea of paragraph 1?
  - a. Losari Beach is beautiful beach
  - b. Losari Beach is an icon of Makassar
  - c. Losari Beach is well-known for its sunset
  - d. Losari Beach is enjoyed by many people
- 5. Why is Losari beach easy to access? Because....
  - a. It only takes 10 minutes to drive from the harbor of Makassar
  - b. It only takes 30 minutes to drive from Sultan Hasanuddin Airport
  - c. It can only be reached by car and motorcycle
  - d. It is located near the center of Makassar city
- 6. Based on the text above, we can conclude that....

- a. Losari beach is popular with its beautiful sunset scenary.
  - b. Losari beach is located in the northern part of Makassar, South Sulawesi
  - c. Losari beach only take 30 minutes to drive from the harbor of Makassar
  - d. Losari beach only take 10 minutes to drive from Sultan Hasanuddin Airport
7. “..... beach located in western part.....”the underline word same with...
- a. Stayed
  - b. Positioned
  - c. Placed
  - d. Situated

**The following text for question 8 to 11**

The rafflesia arnoldi is the biggest flower in the world. It is unusual because of its large size. The flower is almost 100 centimeters in diameter and 140 centimeters in height. " Rafflesia" is derived from the name of the British Governor General, Sir Thomas Stamford Raffles, who once governed and built the Botanical Garden in Bogor. Though it is called Rafflesia after Raffles, the man who discovered the plant was Beccary, an Italian botanist who visited Sumatra in 1928.

Rafflesia consists of two parts: the stick-like part which grows in the middle and the petals around and below it. While the flower is blossoming, it has a very unpleasant smell which affects insects, especially green flies. They seem eager to explore the flower. But if the flies touch the bottom part of the sticklike centre, they die.

8. The text tell about.....
- a. Stamford Raffles
  - b. Italian Botanist
  - c. Raflessia Arnoldi
  - d. Botanical Garden
9. What is the conclusion of the text?
- a. Rafflesia Arnoldi has a very nice smell
  - b. Berccary built the Botanical Garden
  - c. Rafflesia is the big flower and getting interest of insect
  - d. Berccary discovered Rafflesia Arnoldi
10. Rafflesia arnoldi is unusual because of its...
- a. Small size
  - b. Long size
  - c. Tiny size
  - d. Large size
11. the word ‘they’ in the last paragraph refers to....
- a. The green flies
  - b. The parts of rafflesia

- c. The petal
- d. Stamford Raffles and Beccary

**The following text for question 12 to 15**

The Eiffel Tower (French: La tour Eiffel. Nickname La Dame de fer, the iron lady) is an 1889 iron lattice tower located on the Champ de mars in Paris that has become both a global icon of France and one of the most recognizable structures in the world. The tallest building in Paris, it is the most visited paid monument in the world million of people ascend it every year . Named the designer, engineer Gustave Eiffel, the tower was built as the entrance arch to the 1889 world fair.

The tower has three levels for visitor. Tickets can be purchased to ascend by stairs or lift, to the first and second levels . The walk to the first levels is over 300 steps, as is the walk from the first to the second level. The third and the highest level is accessible only by lift. Both the first and the second levels feature restaurants.

The tower has become the most prominent symbol of both Paris and French, often in the establishing shot of films set in the city. That is the most valuable experience in my life go to the most – visited paid monument in the world.

- 12. Text above talk about....
  - a. The Eiffel Tower
  - b. Gustave Eiffel
  - c. La Dame de fer
  - d. Paris
- 13. What is the main idea of paragraph?
  - a. The tower has three levels for visitor
  - b. Tickets can be purchased to ascend by stairs or lift
  - c. The Eiffel Tower is an 1889 iron lattice tower
  - d. The tower has become the most prominent symbol of both Paris and French
- 14. The conclusion of the text is.....
  - a. The third and the highest levels is accessible only by lift
  - b. The walk to the first levels in over 300 steps
  - c. Eiffel tower is the most prominent symbol of both Paris
  - d. Eiffel Tower is located on the Champ de mars in Paris
- 15. It is the most visited paid monument... (paragraph 1 line 4), the underline word refers to..
  - a. Tower of French
  - b. Iron lattice Paris
  - c. Icon of the Paris
  - d. Tallest building in Paris

**The following text is for question 16 to 20**

Baturaden is a tourist destination in Banyumas regency, Central Java, Indonesia. Baturaden located in the northern town of Purwokerto just on the south slope of Mount Slamet. With height 640 m above sea level. Air temperature ranges between 18 - 25 Celsius with humidity from 70 to 80 mm Hg.

The air in Baturaden is very cool, and the scenery is very beautiful and natural. From the town of Purwokerto, the road to this Baturaden is only about 14 km to the north, and can be reached by public transportation.

Baturaden also a tourist area visited by many local tourists, as well as foreign tourists, especially on Sundays and national holidays. To accommodate them, there are some hotels and inn available there.

16. Where is the exact location of Baturaden?
  - a. in northern town of Purwokerto, Central Java
  - b. in northern town of Purwokerto, west Java
  - c. in northern town of Banyuwangi, Central Java
  - d. in northern town of Mojokerto, Central Java
17. What is the conclusion of the text?
  - a. Baturaden is a beautiful and nice place for tourist area
  - b. Baturaden is only 24 km to the north
  - c. There are some hotels there
  - d. Air temperature ranges between 19-25 celsius
18. What is the main idea of paragraph 1?
  - a. Baturaden is a tourist destination
  - b. Air temperature in Baturaden ranges between 19-25 celsius
  - c. The air in baturaden is very cool
  - d. Baturaden is only about 14 km to the north
19. “Baturaden is a tourist destination in Banyumas regency...”. The underline word is similar to..
  - a. Mountainous area
  - b. Place of interest
  - c. Gathering place
  - d. Crowd location
20. The text above tell about...
  - a. Baturaden
  - b. Banyumas regency
  - c. Tourits destination
  - d. Tourist area

Validator,

**Sojuangon Rambe, S.S, M.Pd**  
**Nip. 10790815 200604 1 003**

## Appendix 4

### Instrument Post Test

Nama :

Kelas :

#### The following text is for question 1 to 3

Outwardly the Mini Rex rabbit looks like a miniature version of the larger Rex Rabbit. Sporting graceful proportions and that nice plush “Rex fur”, this is a very good looking rabbit. It has become one of the most popular and readily available pet rabbits and is good with children.

The Mini Rex is an adorable medium sized rabbit that makes a wonderful companion. Generally friendly and moderately active, they will enjoy playing or just relaxing and being petted. Because of its relatively small size it is easy to handle, as well as easy to house and feed.

1. What make the mini rex easy to handle?
  - a. It’s good with children
  - b. It’s a very good looking rabbit.
  - c. It’s relatively small in size.
  - d. It’s a wonderful companion.
2. The conclusion of the text is...
  - a. Mini rex rabbit is a beautiful, well known, active, small size and friendly pet animal
  - b. Mini rex is a suitable pet for adults.
  - c. Mini rex is an adorable medium sized rabbit.
  - d. Generally, mini Rex rabbit is not friendly and active
3. The main idea of the text is....
  - a. The Mini Rex is an adorable medium sized rabbit that makes a wonderful companion
  - b. Rex rabbit is very good looking rabbit
  - c. Mini Rex rabbit looks like a miniature version of the larger Rex Rabbit
  - d. Rex rabbit is friendly and good with children

#### The following text is for question 4-6

Monas National Monument is a 132-meter tower in the center of Merdeka Square, Central Jakarta, Indonesia Jakarta, is the capital of the state. It symbolizes the struggle for Indonesian independence of our country. The monument consists of a 117.7 m obelisk on a 45m square platform at a height of 17 m.

Towering monument symbolizes the philosophy of Lingga and Yoni. Resembles a phallus, or pestle mortar pestle and Yoni resembles rice or mortar, two

important things in the tradition of Indonesian agriculture. Construction began in 1961 under the direction of President Sukarno, the first president of the us and the monument was opened to the public in 1975. It is topped by a flame covered with gold foil, and now the monument calls.

4. What is the text about?
  - a. Monument National
  - b. Philosophy of Lingga and Yoni
  - c. Capital of the state
  - d. Merdeka square
5. ... It is topped by a flame, (paragraph 2), the underline word is refers to...
  - a. Indonesian agriculture
  - b. Merdeka sequare
  - c. National monument
  - d. Gold foil
6. What the conclusion of the text ....
  - a. Monument was opened to public in 1965
  - b. Monas National monument is a 132 meter
  - c. Monument is symbol of Indonesian independence
  - d. Monument National is located near Jakarta

**The following text is for question 7-10**

Indonesia is blessed with amazing cultural heritages in the form of dances. Dances in the wayang performance in Java, for example, involve fine, intricate movements. Traditional dances from Sumatra, Kalimantan, Sulawesi, Bali, Irian Jaya and many other island in Indonesia have movements in various style and qualities which carry messages or symbols about important aspect of life. For a long time, people all over the world have admired the beauty of the various traditional dances of Indonesia.

Dances have social, religious, and magical functions. In their social function, dances are performed for and during social events such as births, marriages, hunting, etc. In Bali and certain parts of Kalimantan and Irian Jaya, for example, dances cannot be separated from the social life of the members of the society. In their religious function, dances are performed for religious rituals such as worshipping, offering, initiation, etc. The Pendet and Gabor dances of Bali, for example, are used in offering ceremonies. In their magical function, dances are performed in such occasions as healing, purifying, driving evils, asking for rains, etc.

7. The text above tells about...
  - a. The magic of dancer

- b. Dances of Irian Jaya
  - c. Three function of dances
  - d. The meaning of dance movements
8. In paragraph 1, the writer mainly says that...
- a. Dances are a precious heritage
  - b. The wayang dances of Java involve intricate movements
  - c. The islands of Indonesia have amazing dances
  - d. Dance movements carry important messages and symbols
9. The Pendet and Gabor dances of Bali are used for....
- a. marriages
  - b. hunting
  - c. offering ceremonies
  - d. wars
10. The relative pronoun which (paragraph 1) refers to...
- a. Movements
  - b. Styles
  - c. Messages
  - d. Qualities

**The following text is for question 11-15**

Africa is the world's second-largest and second most-populous continent, after Asia. At about 30,221,532 km<sup>2</sup> (11,668,545 sq mi) including adjacent island, it covers 6% of the Earth's total surface area, and 20,4% of the total land area. With more than 900,000,000 people (as of 2005) in 61 territories, it accounts for about 14% of the world's human population. The continent is surrounded by the Mediterranean Sea to the north, the Suez Canal and the Red Sea to the northeast, the Indian Ocean to the southeast, and the Atlantic Ocean to the west. There are 46 countries including Madagascar, and 53 including all the island groups.

Africa, particularly central eastern Africa, is widely regarded within the scientific community to be the origin of humans and the Hominidae tree, as evidenced by the discovery of the earliest hominids, as well as later ones that have been dated to around 7 million years ago-including *Sahelanthropus tchadensis*, *Australopithecus africanus* and *Homo erectus*-with the earliest humans being dated to ca. 200,000 years ago.

Africa straddles the equator and encompasses numerous climate areas; it is the only continent to stretch from the northern temperate to southern temperate zones. Because of the lack of natural regular precipitation and irrigation as well as glaciers or mountain aquifer systems, there is no natural moderating effect on the climate except near the coast.



11. The main idea of the third paragraph is...
  - a. Population in Africa
  - b. Land and water area in Africa
  - c. Season and climate in Africa
  - d. The geographical position of Africa
12. The topic of text is...
  - a. The continent is surrounded by the Mediterranean
  - b. The Mediterranean
  - c. The Suez Canal
  - d. Africa
13. From the third paragraph it can be concluded that...
  - a. Africa lack of natural regular precipitation and irrigation
  - b. The northern border of Africa is Indian Sea
  - c. Africa's climate is lack of natural regular precipitation and irrigation
  - d. In Africa there is no natural moderating effect on the climate
14. Africa's western border is...
  - a. Red Sea
  - b. Central Sea
  - c. Indian Ocean
  - d. Atlantic Ocean
15. The word **adjacent** in paragraph 1 means...
  - a. Nearby
  - b. Offshore
  - c. Uninhabited
  - d. Populous

**The following text is for question 15-20**

Wayang is a Javanese word to refer to kinds of puppet theatres. Wayang is shadow and the wayang performance is a shadow puppet theatre. In modern daily Javanese and Indonesian, wayang can be the puppet itself or the whole puppet theatre performance. The word wayang is a generic term for these different types of puppet theatres. Many kind of wayang that can be found in our rich cultures such as wayang kulit, wayang wong, wayang golek, etc. First, wayang kulit, kulit means skin, and refers to the leather construction of the puppets that are carefully chiseled with very fine tools and supported with carefully shaped buffalo horn handles and control rods. The puppets are crafted from buffalo hide and mounted on bamboo stick.

Second, wayang wong literally it means human wayang. This is precisely like the theatre. The wayang, the characters, are acted by persons. It is not wayang in its original meaning since it is not using shadows, but real people. The wayang wong was originally performed only as an aristocratic entertainment in the four palaces of

Yogyakarta and Surakarta. In the course of time, it spread to become a popular and folk from as well.

Third is wayang golek, the word golek truly means “puppet” or “doll”, three-dimensional. The puppets are made of wood. It is believed that the wayang golek was originated from the north-coast areas of Java Sea, brought from China by the Moslem walis. Now, the wayang golek is most popular in Priangan areas and some places in West Java. The earlier wayang golek mostly tell about the Amir Hamza menak stories. The more modern wayang golek, however, tells about the Ramayana and Mahabharata stories, the same as those in the wayang kulit of Central Java.

The UNESCO designated wayang kulit as Masterpiece of Oral and Intangible Heritage of Humanity on 7 November 2003. In return for the acknowledgment, this world organization requires us to preserve the wayang as one of our rich cultural heritages.

16. The topic of the text is...
  - a. Indonesian puppet culture
  - b. Historical of wayang
  - c. Historical of wayang kulit
  - d. Javanese culture
17. The handles of the wayang puppets are made from...
  - a. Buffalo hide
  - b. Chisels
  - c. Buffalo horn
  - d. Tools
18. It is not wayang in its original..., the underline word refers to...
  - a. Puppets
  - b. Wayang wong
  - c. Wayang kulit
  - d. The theatre
19. The main idea of paragraph 1 is.....
  - a. Wayang performance is a shadow puppet theatre.
  - b. The word wayang is a generic term
  - c. Wayang is a Javanese word to refer to kinds of puppet theatre.
  - d. Characteristic of wayang are acted by person
20. Based on the text, it can be concluded that...
  - a. Wayang is puppet theatre and have many kinds
  - b. A general definition of the word wayang in many areas in Indonesia
  - c. The historical account on the development of wayang kulit
  - d. The religious influences on the development of wayang in Indonesia

Validator,

**Sojuangon Rambe, S.S,  
M.Pd  
Nip. 10790815 200604 1  
003**

## Appendix 5

### Key Answer of Pre Test

1. b	11. a
2. c	12. a
3. c	13. a
4. a	14. c
5. a	15. d
6. a	16. a
7. c	17. a
8. c	18. a
9. c	19. b
10. d	20. a

### Key Answer of Post Test

1. c	11. c
2. a	12. d
3. c	13. a
4. a	14. d
5. c	15. a
6. c	16. b
7. d	17. a
8. c	18. b
9. c	19. c
10. a	20. a

# Appendix 6

## Validity of Pre Test

No	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	Xt	Xt <sup>2</sup>	
1	1	1	1	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	22	484
2	1	1	1	0	0	1	1	1	1	1	0	1	1	1	1	1	1	1	1	0	1	1	0	1	1	1	20	400
3	1	1	0	0	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	0	1	1	1	1	1	21	441
4	1	1	1	0	0	1	1	1	1	1	1	1	1	1	0	1	0	1	1	0	1	1	1	1	1	0	19	361
5	0	0	0	0	1	0	0	0	1	0	0	1	0	0	0	0	0	0	1	0	0	0	1	0	1	1	7	49
6	1	1	1	0	0	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	0	1	1	1	1	1	21	441
7	0	1	1	0	0	1	1	0	1	1	0	1	1	1	0	1	1	1	1	1	0	0	0	1	1	0	15	324
8	1	1	0	0	0	1	0	1	0	0	1	1	1	0	0	0	0	0	1	1	0	1	0	0	1	1	12	144
9	1	1	1	0	0	1	1	1	1	1	1	1	0	1	0	1	1	1	1	0	1	0	1	1	0	18	324	
10	0	0	1	0	0	0	1	0	1	1	1	1	1	1	1	1	1	0	0	1	1	0	0	1	1	15	225	
11	0	1	1	0	0	0	1	0	0	0	0	0	1	0	0	0	1	0	1	0	0	0	1	1	1	9	81	
12	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	0	1	22	484
13	1	0	0	0	0	1	1	1	0	0	0	0	1	1	0	1	1	1	1	1	1	1	1	1	1	1	16	256
14	1	1	1	0	0	0	0	1	1	1	0	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	19	361
15	1	1	1	0	0	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	22	484
16	1	1	0	1	1	1	0	1	1	1	1	1	1	0	1	0	1	1	1	1	1	0	1	1	1	1	20	400
17	1	1	1	1	1	1	0	0	0	1	0	1	1	1	0	0	1	0	1	1	1	1	1	1	0	1	17	289
18	1	0	0	0	0	1	1	0	0	1	1	1	0	1	0	0	1	0	1	0	1	1	1	1	1	1	14	196
19	0	1	1	0	0	1	1	1	1	0	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	20	400
20	1	1	1	1	1	1	1	1	0	1	0	1	1	1	0	1	1	0	1	0	0	1	1	0	0	17	289	
21	1	1	0	0	0	1	1	1	1	1	1	0	1	1	0	1	1	1	1	1	1	1	1	1	1	1	20	400
22	1	1	0	0	0	1	1	1	1	1	1	0	1	1	1	0	1	1	1	1	1	0	1	1	0	0	17	289
23	1	0	0	1	1	1	0	1	1	0	1	1	1	1	1	1	0	0	1	0	1	0	1	1	1	1	17	289
24	0	0	0	0	1	0	0	0	1	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	4	16
25	1	1	1	1	1	1	0	1	1	1	0	0	1	0	1	1	1	1	1	1	1	1	1	1	1	1	21	441
26	0	0	0	0	1	0	0	0	0	0	0	0	1	1	0	0	0	0	1	0	0	0	0	1	0	0	5	25
27	1	0	0	0	1	1	1	1	1	0	0	1	0	0	1	1	1	0	0	0	1	1	0	0	0	0	12	144
28	1	1	1	0	0	1	0	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	21	441
29	1	1	1	1	0	1	1	1	0	1	1	0	1	0	0	1	1	1	1	1	0	1	0	1	1	1	18	324
30	0	1	1	0	0	1	0	1	1	1	1	1	1	0	0	1	1	1	1	1	1	1	1	1	1	1	19	361
<b>N=</b> <b>30</b>	22	22	18	7	11	23	18	23	22	21	16	24	25	21	12	21	23	22	26	12	21	21	24	23	22	<b>∑x=</b> <b>500</b>	<b>∑xt<sup>2</sup></b> <b>=</b> <b>9064</b>	
<b>p</b>	0,7	0,7	0,6	0,2	0,4	0,8	0,6	0,8	0,7	0,7	0,5	0,8	0,8	0,7	0,4	0,7	0,8	0,7	0,9	0,4	0,7	0,7	0,8	0,8	0,7			
<b>q</b>	0,3	0,3	0,4	0,8	0,6	0,2	0,4	0,2	0,3	0,3	0,5	0,2	0,2	0,3	0,6	0,3	0,2	0,3	0,1	0,6	0,3	0,3	0,2	0,2	0,3			

**Appendix 7**

**Table Validity of Pre- Test**

Number of Item	$M_p$	$M_t$	$SD_t$	P	Q	$r_{pbi} = \frac{M_p - M_t}{SD_t} \sqrt{\frac{p}{q}}$	$r_t$ on 5% significant	Interpretation
1.	18.18	16.43	4.88	0.7	0.3	0.544	0.349	Valid
2.	18.36	16.43	4.88	0.7	0.3	0.600	0.349	Valid
3.	18.42	16.43	4.88	0.6	0.4	0.496	0.349	Valid
4.	19.00	16.43	4.88	0.3	0.7	0.344	0.349	Invalid
5.	13.90	16.43	4.88	0.3	0.7	0.338	0.349	Invalid
6.	17.95	16.43	4.88	0.8	0.2	0.622	0.349	Valid
7.	17.38	16.43	4.88	0.6	0.4	0.236	0.349	Invalid
8.	17.91	16.43	4.88	0.8	0.2	0.606	0.349	Valid
9.	18.09	16.43	4.88	0.7	0.3	0.516	0.349	Valid
10.	18.66	16.43	4.88	0.7	0.3	0.693	0.349	Valid
11.	19.81	16.43	4.88	0.5	0.5	0.692	0.349	Valid
12.	17.54	16.43	4.88	0.8	0.2	0.454	0.349	Valid
13.	19.04	16.43	4.88	0.8	0.2	1.068	0.349	Valid
14.	17.76	16.43	4.88	0.7	0.3	0.413	0.349	Valid
15.	18.91	16.43	4.88	0.4	0.6	0.412	0.349	Valid
16.	18.38	16.43	4.88	0.7	0.3	0.606	0.349	Valid
17.	17.78	16.43	4.88	0.8	0.2	0.552	0.349	Valid
18.	19.45	16.43	4.88	0.7	0.3	0.939	0.349	Valid
19.	17.50	16.43	4.88	0.9	0.1	0.633	0.349	Valid
20.	17.50	16.43	4.88	0.4	0.6	0.177	0.349	Invalid
21.	18.09	16.43	4.88	0.7	0.3	0.784	0.349	Valid
22.	17.07	16.43	4.88	0.4	0.6	0.106	0.349	Invalid
23.	17.66	16.43	4.88	0.8	0.2	0.504	0.349	Valid
24.	16.60	16.43	4.88	0.8	0.2	0.392	0.349	Valid
25.	17.36	16.43	4.88	0.7	0.3	0.372	0.349	Valid

## Appendix 8

Calculation of  $r_{pbi} = \frac{M_p - M_t}{SD_t} \sqrt{\frac{p}{q}}$  in Pre-Test

### A. Calculation of Pre-Test

#### 1. Means score from score total ( $M_t$ )

$$M_t = \frac{\sum X_t}{N}$$

$$M_t = \frac{500}{30} = 16.66$$

#### 2. Standard Deviation ( $SD_t$ )

$$SD_t = \sqrt{\frac{\sum X_t^2}{N} - \left(\frac{\sum X_t}{N}\right)^2}$$

$$SD_t = \sqrt{\frac{9064}{30} - \left(\frac{500}{30}\right)^2}$$

$$SD_t = \sqrt{302.1 - 16.66^2}$$

$$SD_t = \sqrt{302.1 - 277.5} = \sqrt{24.6} = 4.359$$

#### 3. Means Score ( $M_p$ )

Item 1  $M_{p1} = \frac{\text{the total of students score that true item answer}}{n1}$

$$M_{p1} = \frac{22+20+21+19+21+12+18+22+16+19+22+20+17+14+17+20+17+17+21+12+21+18}{22}$$

$$M_{p1} = \frac{406}{22} = 18.45$$

Item 2  $M_{p2} = \frac{\text{the total of students score that answer true item}}{n2}$

$$M_{p2} = \frac{22+20+21+19+21+15+12+18+9+22+19+22+20+17+20+17+20+17+21+21+18+19}{22}$$

$$M_{p2} = \frac{410}{22} = 18.63$$

Item 3  $M_{p3} = \frac{\text{the total of students score that answer true item}}{n3}$

$$M_{p3} = \frac{22+20+19+21+15+18+15+9+22+19+22+17+20+17+21+21+18+19}{18}$$

$$M_{p3} = \frac{336}{18} = 18.61$$

Item 4  $M_{p4} = \frac{\text{the total of students score that answer true item}}{n4}$

$$M_{p4} = \frac{22+20+17+17+17+21+18}{7}$$

$$M_{p4} = \frac{132}{7} = 18.85$$

Item 5  $M_{p5} = \frac{\text{the total of students score that answer true item}}{n5}$

$$M_{p5} = \frac{21+7+22+20+17+17+17+4+21+5+12}{11}$$

$$= \frac{163}{11} = 14.81$$

Item 6  $M_{p6} = \frac{\text{the total of students score that answer true item}}{n6}$

$$M_{p6} = \frac{22+20+21+19+21+15+12+18+16+22+20+17+14+20+17+20+17+17+21+12+21+18+19}{23}$$

$$= \frac{419}{23} = 18.21$$



$$\text{Item 7 } M_{p7} = \frac{\text{the total of students score that answer true item}}{n7}$$

$$M_{p7} = \frac{22+20+21+19+21+15+18+15+9+22+16+14+20+17+20+17+12+18}{18}$$

$$= \frac{316}{18} = 17.55$$

$$\text{Item 8 } M_{p8} = \frac{\text{the total of students score that answer true item}}{n8}$$

$$M_{p8} = \frac{22+20+21+19+21+12+18+22+16+19+22+20+20+17+20+17+17+4+21+12+21+18+19}{23}$$

$$M_{p8} = \frac{418}{23} = 18.17$$

$$\text{Item 9 } = \frac{\text{the total of students score that answer true item}}{n9}$$

$$M_{p9} = \frac{22+20+21+19+7+21+15+18+15+22+19+22+20+20+20+17+17+4+21+12+21+19}{22}$$

$$= \frac{392}{22} = 17.81$$

$$\text{Item 10 } M_{p10} = \frac{\text{the total of students score that answer true item}}{n10}$$

$$M_{p10} = \frac{22+20+21+19+21+15+18+15+22+19+22+20+17+14+17+20+17+21+21+18+19}{21}$$

$$M_{p10} = \frac{398}{21} = 18.95$$

$$\text{Item 11 } M_{p11} = \frac{\text{the total of students score that answer true item}}{n11}$$

$$M_{p11} = \frac{22+21+19+21+12+18+15+22+22+20+14+20+17+21+18+19}{16}$$

$$M_{p11} = \frac{301}{16} = 18.81$$

$$\text{Item 12 } M_{p12} = \frac{\text{the total of students score that answer true item}}{n12}$$

$$M_{p12} = \frac{22+20+21+19+7+21+15+12+18+15+22+19+22+20+17+14+20+17+20+17+17+12+21+19}{24}$$

$$M_{p12} = \frac{427}{24} = 17.79$$

$$\text{Item 13 } M_{p13} = \frac{\text{the total of students score that answer true item}}{n13}$$

$$M_{p13} = \frac{22+20+21+19+21+15+12+15+9+22+16+19+22+20+17+20+17+20+17+17+21+5+21+18+19}{25}$$

$$M_{p13} = \frac{445}{25} = 16.92$$

$$\text{Item 14 } M_{p14} = \frac{\text{the total of students score that answer true item}}{n14}$$

$$M_{p14} = \frac{22+20+21+19+21+15+18+15+22+16+19+22+17+14+20+17+20+17+17+5+21}{21}$$

$$M_{p14} = \frac{378}{21} = 18.00$$

$$\text{Item 15 } M_{p15} = \frac{\text{the total of students score that answer true item}}{n15}$$

$$M_{p15} = \frac{22+20+15+22+19+22+20+20+17+21+12+21}{12}$$

$$M_{p15} = \frac{231}{12} = 15.25$$

$$\text{Item 16 } M_{p16} = \frac{\text{the total of students score that answer true item}}{n23}$$

$$M_{p16} = \frac{22+20+21+19+21+15+18+15+22+16+19+22+17+20+17+17+21+12+21+18+19}{21}$$

$$M_{p16} = \frac{392}{21} = 18.66$$

$$\text{Item 17 } M_{p17} = \frac{\text{the total of students score that answer true item}}{n17}$$

$$M_{p17} = \frac{22+20+21+21+15+18+15+9+16+19+22+20+17+14+20+17+20+17+21+12+21+18+19}{23}$$

$$M_{p17} = \frac{414}{23} = 18.00$$

$$\text{Item 18 } M_{p18} = \frac{\text{the total of students score that answer true item}}{n18}$$

$$M_{p18} = \frac{22+20+21+19+7+21+15+12+18+22+16+19+22+20+20+20+17+21+5+21+18+19}{22}$$

$$M_{p18} = \frac{395}{22} = 17.95$$

$$\text{Item 19 } M_{p19} = \frac{\text{the total of students score that answer true item}}{n19}$$

$$M_{p19} = \frac{22+20+21+19+21+15+12+18+9+22+16+19+22+20+17+14+20+17+20+17+17+4+21+21+18+19}{26}$$

$$M_{p19} = \frac{461}{26} = 17.73$$

$$\text{Item 20 } M_{p20} = \frac{\text{the total of students score that answer true item}}{n20}$$

$$M_{p20} = \frac{21+21+15+22++16+22+20+17+20+20+21+19}{12}$$

$$M_{p20} = \frac{234}{12} = 19.50$$

$$\text{Item 21 } M_{p21} = \frac{\text{the total of students score that answer true item}}{n21}$$

$$M_{p21} = \frac{22+20+19+12+18+15+22+16+19+22+17+14+20+20+17+17+21+12+21+18+19}{21}$$

$$M_{p21} = \frac{381}{21} = 18.14$$

$$\text{Item 22 } M_{p22} = \frac{\text{the total of students score that answer true item}}{n22}$$

$$M_{p22} = \frac{22+20+21+19+7+21+22+16+19+22+20+17+14+20+17+20+17+21+12+21+19}{21}$$

$$M_{p22} = \frac{387}{21} = 18.42$$

$$\text{Item 23 } M_{p23} = \frac{\text{the total of students score that answer true item}}{n16}$$

$$M_{p23} = \frac{22+21+19+21+15+18+9+22+16+19+22+20+17+14+20+17+20+17+17+21+5+21+18+19}{24}$$

$$M_{p23} = \frac{430}{24} = 17.91$$

$$\text{Item 24 } M_{p24} = \frac{\text{the total of students score that answer true item}}{n24}$$

$$M_{p24} = \frac{22+20+21+19+7+21+15+12+18+15+9+16+19+22+20+14+20+20+17+21+21+18+19}{23}$$

$$M_{p24} = \frac{406}{23} = 17.65$$

$$\text{Item 25 } M_{p25} = \frac{\text{the total of students score that answer true item}}{n25}$$

$$M_{p25} = \frac{22+20+21+7+21+12+15+9+22+16+19+22+20+17+14+20+20+17+21+21+18+19}{22}$$

$$M_{p25} = \frac{393}{22} = 17.86$$

#### 4. Calculation of the Formulation $r_{pbi} = \frac{M_p - M_t}{SD_t} \sqrt{\frac{p}{q}}$

$$\text{Item 1 } r_{pbi} = \frac{M_p - M_t}{SD_t} \sqrt{\frac{p}{q}}$$

$$r_{pbi} = \frac{18.45 - 16.66}{4.35} \sqrt{\frac{0.7}{0.3}}$$

$$r = \frac{1.79}{4.35} \sqrt{2.33}$$

$$r = 0.411 \times 1.52 = 0.624$$

$$\text{Item 2 } r_{pbi} = \frac{18.63 - 16.66}{4.35} \sqrt{\frac{0.7}{0.3}}$$

$$r = \frac{1.97}{4.35} \sqrt{2.33}$$

$$r = 0.452 \times 1.52 = 0.687$$

$$\text{Item 3 } r_{pbi} = \frac{18.61 - 16.66}{4.35} \sqrt{\frac{0.6}{0.4}}$$

$$r = \frac{1.95}{4.35} \sqrt{1.5}$$

$$r = 0.448 \times 1.22 = 0.546$$

$$\text{Item 4 } r_{pbi} = \frac{18.85 - 16.66}{4.35} \sqrt{\frac{0.2}{0.8}}$$

$$r = \frac{2.19}{4.35} \sqrt{0.25}$$

$$r = 0.503 \times 0.5 = 0.251$$

$$\text{Item 5 } r_{pbi} = \frac{14.81 - 16.66}{4.35} \sqrt{\frac{0.4}{0.6}}$$

$$r = \frac{-1.85}{4.35} \sqrt{0.66}$$

$$r = -0.425 \times 0.31 = -0.131$$

$$\text{Item 6 } r_{pbi} = \frac{18.21 - 16.66}{4.35} \sqrt{\frac{0.8}{0.2}}$$

$$r = \frac{1.55}{4.35} \sqrt{4}$$

$$r = 0.356 \times 2 = 0.712$$

$$\text{Item 7 } r_{pbi} = \frac{17.55 - 16.66}{4.35} \sqrt{\frac{0.6}{0.4}}$$

$$r = \frac{0.89}{4.35} \sqrt{1.5}$$

$$r = 0.204 \times 1.22 = 0.248$$

$$\text{Item 8 } r_{pbi} = \frac{18.17 - 16.66}{4.35} \sqrt{\frac{0.8}{0.2}}$$

$$r = \frac{1.51}{4.35} \sqrt{4}$$

$$r = 0.347 \times 2 = 0.694$$

Item 9  $r_{\text{pbi}} = \frac{17.81-16.66}{4.35} \sqrt{\frac{0.7}{0.3}}$

$$r = \frac{1.15}{4.35} \sqrt{2.33}$$

$$r = 0.264 \times 1.52 = 0.401$$

Item 10  $r_{\text{pbi}} = \frac{18.95-16.66}{4.35} \sqrt{\frac{0.7}{0.3}}$

$$r = \frac{2.29}{4.35} \sqrt{2.33}$$

$$r = 0.526 \times 1.52 = 0.799$$

Item 11  $r_{\text{pbi}} = \frac{18.81-16.66}{4.35} \sqrt{\frac{0.5}{0.5}}$

$$r = \frac{2.15}{4.35} \sqrt{1}$$

$$r = 0.494 \times 1 = 0.494$$

Item 12  $r_{\text{pbi}} = \frac{17.79-16.66}{4.35} \sqrt{\frac{0.8}{0.2}}$

$$r = \frac{1.13}{4.35} \sqrt{4}$$

$$r = 0.259 \times 2 = 0.518$$

Item 13  $r_{\text{pbi}} = \frac{17.80-16.66}{4.35} \sqrt{\frac{0.8}{0.2}}$

$$r = \frac{1.14}{4.35} \sqrt{4}$$

$$r = 0.262 \times 2 = 0.524$$

Item 14  $r_{\text{pbi}} = \frac{18.00-16.66}{4.35} \sqrt{\frac{0.7}{0.3}}$

$$r = \frac{1.34}{4.35} \sqrt{2.33}$$

$$r = 0.308 \times 1.52 = 0.468$$

Item 15  $r_{\text{pbi}} = \frac{19.25-16.66}{4.35} \sqrt{\frac{0.4}{0.6}}$

$$r = \frac{2.59}{4.35} \sqrt{0.66}$$

$$r = 0.595 \times 0.31 = 0.184$$

Item 16  $r_{\text{pbi}} = \frac{18.66-16.66}{4.35} \sqrt{\frac{0.7}{0.3}}$

$$r = \frac{2.00}{4.35} \sqrt{2.33}$$

$$r = 0.459 \times 1.52 = 0.697$$

Item 17  $r_{\text{pbi}} = \frac{18.00-16.66}{4.35} \sqrt{\frac{0.8}{0.2}}$

$$r = \frac{1.34}{4.35} \sqrt{4}$$

$$r = 0.308 \times 2 = 0.616$$

$$\text{Item 18 } r_{\text{pbi}} = \frac{17.95-16.66}{4.35} \sqrt{\frac{0.7}{0.3}}$$

$$r = \frac{1.29}{4.35} \sqrt{2.33}$$

$$r = 0.296 \times 1.52 = 0.449$$

$$\text{Item 19 } r_{\text{pbi}} = \frac{17.73-16.66}{4.35} \sqrt{\frac{0.9}{0.1}}$$

$$r = \frac{1.07}{4.35} \sqrt{9}$$

$$r = 0.246 \times 3 = 0.738$$

$$\text{Item 20 } r_{\text{pbi}} = \frac{19.50-16.66}{4.35} \sqrt{\frac{0.4}{0.6}}$$

$$r = \frac{2.84}{4.35} \sqrt{0.66}$$

$$r = 0.652 \times 0.31 = 0.202$$

$$\text{Item 21 } r_{\text{pbi}} = \frac{18.14-16.66}{4.35} \sqrt{\frac{0.7}{0.3}}$$

$$r = \frac{1.48}{4.35} \sqrt{2.33}$$

$$r = 0.340 \times 1.52 = 0.516$$

$$\text{Item 22 } r_{\text{pbi}} = \frac{18.42-16.66}{4.35} \sqrt{\frac{0.7}{0.3}}$$

$$r = \frac{1.76}{4.35} \sqrt{2.33}$$

$$r = 0.404 \times 1.52 = 0.614$$

$$\text{Item 23 } r_{\text{pbi}} = \frac{17.91-16.66}{4.35} \sqrt{\frac{0.8}{0.2}}$$

$$r = \frac{1.25}{4.35} \sqrt{4}$$

$$r = 0.287 \times 2 = 0.574$$

$$\text{Item 24 } r_{\text{pbi}} = \frac{17.65-16.66}{4.35} \sqrt{\frac{0.8}{0.2}}$$

$$r = \frac{0.99}{4.35} \sqrt{4}$$

$$r = 0.227 \times 2 = 0.454$$

$$\text{Item 25 } r_{\text{pbi}} = \frac{17.86-16.66}{4.35} \sqrt{\frac{0.7}{0.3}}$$

$$r = \frac{1.20}{4.35} \sqrt{2.33}$$

$$r = 0.275 \times 1.52 = 0.418$$

# Appendix 9

## Validity of Post Test

No	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	Xt	Xt <sup>2</sup>		
1	1	1	1	1	0	1	1	0	1	1	1	1	1	1	0	1	1	1	0	1	1	1	1	1	1	21	441		
2	0	1	1	0	0	1	0	0	1	1	1	1	1	1	0	1	0	1	0	1	0	1	1	1	1	16	256		
3	1	1	1	1	0	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	0	1	1	1	22	484		
4	0	1	1	1	0	1	0	0	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	0	19	361		
5	0	1	1	1	0	1	0	0	1	0	0	0	1	0	1	1	1	1	1	1	1	1	1	1	0	15	225		
6	0	1	1	1	0	0	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	21	441		
7	0	1	1	0	1	1	0	0	0	1	1	1	1	1	1	1	0	1	0	0	1	1	1	1	1	17	289		
8	0	0	0	0	0	0	0	1	0	0	1	0	1	0	1	0	1	0	1	0	0	0	0	0	0	6	36		
9	0	0	1	0	1	0	1	1	1	1	1	0	1	1	0	0	0	1	0	0	1	0	0	1	1	13	169		
10	0	0	1	0	0	1	1	1	0	1	1	1	1	0	0	1	0	1	1	1	1	0	1	1	1	16	256		
11	0	0	1	0	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	0	0	1	19	361		
12	0	0	1	1	1	1	0	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	20	400		
13	1	0	1	1	1	0	1	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	19	361		
14	1	0	1	0	0	1	1	1	0	0	0	1	1	1	0	1	0	1	1	1	1	1	1	1	1	17	289		
15	0	0	1	0	0	0	1	0	0	1	1	0	1	1	1	1	1	1	0	1	1	1	1	1	1	16	256		
16	1	0	1	1	1	1	0	1	1	0	0	1	1	1	0	1	1	1	1	1	1	1	1	1	1	19	361		
17	0	1	0	0	1	1	0	1	0	1	1	1	1	1	0	1	1	0	1	0	0	1	1	1	1	16	256		
18	1	1	1	1	0	0	1	0	1	0	1	0	1	0	1	0	1	0	1	1	1	0	0	1	0	14	156		
19	0	0	1	0	1	1	0	1	1	1	0	1	0	0	0	1	0	1	0	0	1	1	0	1	1	13	169		
20	1	1	0	1	1	1	1	1	1	1	1	1	0	1	1	0	1	0	1	1	1	1	1	1	1	21	441		
21	0	1	0	1	0	1	1	0	1	1	1	1	0	0	0	1	1	0	1	0	0	1	1	1	1	14	196		
22	1	1	1	0	0	1	1	1	1	0	0	0	0	0	0	0	0	1	1	1	0	0	0	0	1	11	121		
23	0	1	1	1	1	1	0	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	22	484		
24	0	1	1	0	1	1	0	0	1	1	1	1	1	1	0	1	1	1	1	0	1	1	0	1	1	17	289		
25	0	1	1	0	0	0	0	0	1	1	1	0	1	1	0	1	1	1	1	1	0	1	1	0	1	15	225		
26	1	1	1	1	0	1	0	0	0	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	20	400		
27	0	0	0	0	1	1	1	0	0	0	0	0	1	0	1	0	0	0	0	0	0	1	1	0	1	8	64		
28	1	1	0	0	1	0	0	0	0	1	1	1	1	1	1	0	1	1	1	1	1	0	1	1	1	17	289		
29	0	1	1	1	0	1	0	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	21	441		
30	0	1	1	1	0	0	1	0	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	20	400		
N=30	10	19	24	16	13	21	15	15	16	24	24	22	25	23	11	22	22	24	22	23	24	21	22	26	22	$\sum Xt = 504$	$\sum Xt^2 = 8920$		
P	0.3	0.6	0.8	0.5	0.4	0.7	0.5	0.5	0.5	0.8	0.8	0.7	0.8	0.7	0.3	0.7	0.7	0.8	0.7	0.7	0.8	0.7	0.7	0.8	0.7				
Q	0.7	0.4	0.2	0.5	0.6	0.3	0.5	0.5	0.5	0.2	0.3	0.3	0.2	0.3	0.7	0.3	0.3	0.2	0.3	0.3	0.2	0.3	0.3	0.2	0.3				

**Appendix 10**

**Table Validity of Post- Test**

Number of Item	$M_p$	$M_t$	$SD_t$	P	Q	$r_{pbi} = \frac{M_p - M_t}{SD_t} \sqrt{\frac{p}{q}}$	$r_t$ on 5% significant	Interpretation
1.	18.10	16.5	3.95	0.3	0.7	0.264	0.349	Invalid
2.	17.68	16.5	3.95	0.6	0.4	0.363	0.349	Valid
3.	17.29	16.5	3.95	0.8	0.2	0.400	0.349	Valid
4.	19.14	16.5	3.95	0.5	0.5	0.668	0.349	Valid
5.	16.46	16.5	3.95	0.4	0.6	-0.008	0.349	Invalid
6.	17.50	16.5	3.95	0.7	0.3	0.384	0.349	Valid
7.	16.60	16.5	3.95	0.5	0.5	0.025	0.349	Invalid
8.	18.07	16.5	3.95	0.5	0.5	0.397	0.349	Valid
9.	16.93	16.5	3.95	0.5	0.5	0.108	0.349	Invalid
10.	17.50	16.5	3.95	0.8	0.2	0.546	0.349	Valid
11.	17.29	16.5	3.95	0.8	0.2	0.400	0.349	Valid
12.	18.22	16.5	3.95	0.7	0.3	0.661	0.349	Valid
13.	17.54	16.5	3.95	0.8	0.2	0.526	0.349	Valid
14.	18.00	16.5	3.95	0.8	0.2	0.758	0.349	Valid
15.	15.55	16.5	3.95	0.3	0.7	0.194	0.349	Invalid
16.	17.63	16.5	3.95	0.7	0.3	0.434	0.349	Valid
17.	18.61	16.5	3.95	0.7	0.3	0.811	0.349	Valid
18.	17.41	16.5	3.95	0.8	0.2	0.460	0.349	Valid
19.	18.04	16.5	3.95	0.7	0.3	0.591	0.349	Valid
20.	17.86	16.5	3.95	0.8	0.2	0.668	0.349	Valid
21.	17.33	16.5	3.95	0.8	0.2	0.420	0.349	Valid
22.	17.75	16.5	3.95	0.7	0.3	0.480	0.349	Valid
23.	17.90	16.5	3.95	0.7	0.3	0.538	0.349	Valid
24.	17.23	16.5	3.95	0.9	0.1	0.552	0.349	Valid
25.	19.40	16.5	3.95	0.7	0.3	1.109	0.349	Valid



## Appendix 11

Calculation of  $r_{pbi} = \frac{M_p - M_t}{SD_t} \sqrt{\frac{p}{q}}$  in Post-Test

### B. Calculation of Post-Test

#### 5. Means score from score total ( $M_t$ )

$$M_t = \frac{\sum X_t}{N}$$

$$M_t = \frac{504}{30} = 16.80$$

#### 6. Standard Deviation ( $SD_t$ )

$$SD_t = \sqrt{\frac{\sum X_t^2}{N} - \left(\frac{\sum X_t}{N}\right)^2}$$

$$SD_t = \sqrt{\frac{8920}{30} - \left(\frac{504}{30}\right)^2}$$

$$SD_t = \sqrt{297.3 - 16.80^2}$$

$$SD_t = \sqrt{297.3 - 282.24} = \sqrt{15.06} = 3.380$$

#### 7. Means Score ( $M_p$ )

$$\text{Item 1 } M_{p1} = \frac{\text{the total of students score that true item answer}}{n1}$$

$$M_{p1} = \frac{21+22+19+17+19+14+21+11+20+17}{10}$$

$$M_{p1} = \frac{181}{10} = 18.10$$

$$\text{Item 2 } M_{p2} = \frac{\text{the total of students score that answer true item}}{n2}$$

$$M_{p2} = \frac{21+16+22+18+15+21+17+16+14+21+14+11+22+17+15+20+17+21+20}{19}$$

$$M_{p2} = \frac{338}{19} = 17.78$$

$$\text{Item 3 } M_{p3} = \frac{\text{the total of students score that answer true item}}{n3}$$

$$M_{p3} = \frac{21+16+22+18+15+21+17+13+16+19+20+19+17+16+19+24+13+11+22+17+15+20+21+20}{24}$$

$$M_{p3} = \frac{442}{24} = 17.58$$

$$\text{Item 4 } M_{p4} = \frac{\text{the total of students score that answer true item}}{n4}$$

$$M_{p4} = \frac{21+22+18+15+21+20+6+19+19+14+21+22+20+21+20}{15}$$

$$M_{p4} = \frac{273}{15} = 18.20$$

$$\begin{aligned} \text{Item 5 } M_{p5} &= \frac{\text{the total of students score that answer true item}}{n5} \\ M_{p5} &= \frac{17+13+19+20+19+19+16+13+21+22+17+8+17}{13} \\ &= \frac{221}{13} = 17.00 \end{aligned}$$

$$\begin{aligned} \text{Item 6 } M_{p6} &= \frac{\text{the total of students score that answer true item}}{n6} \\ M_{p6} &= \frac{21+22+21+13+16+19+19+17+16+14+21+14+11+8+20}{15} \\ &= \frac{256}{15} = 17.06 \end{aligned}$$

$$\begin{aligned} \text{Item 7 } M_{p7} &= \frac{\text{the total of students score that answer true item}}{n7} \\ M_{p7} &= \frac{21+16+22+18+15+17+16+19+20+17+19+16+13+21+14+11+22+17+20+8+21}{21} \\ &= \frac{371}{21} = 17.66 \end{aligned}$$

$$\begin{aligned} \text{Item 8 } M_{p8} &= \frac{\text{the total of students score that answer true item}}{n8} \\ M_{p8} &= \frac{22+21+6+13+16+19+20+17+19+16+13+21+11+22+21}{15} \\ M_{p8} &= \frac{272}{15} = 18.13 \end{aligned}$$

$$\begin{aligned} \text{Item 9 } &= \frac{\text{the total of students score that answer true item}}{n9} \\ M_{p9} &= \frac{21+16+22+21+13+19+19+14+13+21+14+11+17+15+21+20}{16} \\ &= \frac{277}{16} = 17.31 \end{aligned}$$

$$\begin{aligned} \text{Item 10 } M_{p10} &= \frac{\text{the total of students score that answer true item}}{n10} \\ M_{p10} &= \frac{21+16+22+18+15+21+17+13+16+19+20+19+16+16+13+21+14+22+17+15+20+17+21+20}{24} \\ M_{p10} &= \frac{429}{24} = 17.87 \end{aligned}$$

$$\begin{aligned} \text{Item 11 } M_{p11} &= \frac{\text{the total of students score that answer true item}}{n11} \\ M_{p11} &= \frac{21+16+22+18+21+17+6+13+16+19+20+19+16+16+14+21+14+22+17+15+20+17+21+20}{24} \\ M_{p11} &= \frac{421}{24} = 17.54 \end{aligned}$$

$$\begin{aligned} \text{Item 12 } M_{p12} &= \frac{\text{the total of students score that answer true item}}{n12} \\ M_{p12} &= \frac{21+16+22+18+21+17+16+19+20+19+17+19+16+13+21+14+22+17+20+17+21+20}{22} \end{aligned}$$

$$M_{p12} = \frac{406}{22} = 18.45$$

$$\begin{aligned} \text{Item 13 } M_{p13} &= \frac{\text{the total of students score that answer true item}}{n_{13}} \\ &= \frac{21+16+22+18+21+17+6+13+16+19+20+19+17+16+19+16+14+22+17+15+20+8+17+21+20}{25} \\ M_{p13} &= \frac{440}{25} = 17.20 \end{aligned}$$

$$\begin{aligned} \text{Item 14 } M_{p14} &= \frac{\text{the total of students score that answer true item}}{n_{14}} \\ &= \frac{21+16+22+18+15+21+17+13+19+20+19+17+16+19+16+21+22+17+15+20+17+21+20}{23} \\ M_{p14} &= \frac{422}{23} = 18.34 \end{aligned}$$

$$\begin{aligned} \text{Item 15 } M_{p15} &= \frac{\text{the total of students score that answer true item}}{n_{15}} \\ &= \frac{17+6+19+20+19+16+14+21+22+8+17}{11} \\ M_{p15} &= \frac{179}{11} = 16.27 \end{aligned}$$

$$\begin{aligned} \text{Item 16 } M_{p16} &= \frac{\text{the total of students score that answer true item}}{n_{23}} \\ &= \frac{21+16+22+18+15+21+17+16+20+19+17+16+19+16+13+14+22+17+15+20+21+20}{22} \\ M_{p16} &= \frac{395}{22} = 17.95 \end{aligned}$$

$$\begin{aligned} \text{Item 17 } M_{p17} &= \frac{\text{the total of students score that answer true item}}{n_{17}} \\ &= \frac{21+22+18+15+21+6+19+20+19+16+19+16+14+21+14+22+17+15+20+17+21+20}{22} \\ M_{p17} &= \frac{393}{22} = 17.86 \end{aligned}$$

$$\begin{aligned} \text{Item 18 } M_{p18} &= \frac{\text{the total of students score that answer true item}}{n_{18}} \\ &= \frac{21+16+22+18+15+21+17+13+16+19+20+19+17+16+19+13+11+22+17+15+20+17+21+20}{24} \\ M_{p18} &= \frac{425}{24} = 17.70 \end{aligned}$$

$$\begin{aligned} \text{Item 19 } M_{p19} &= \frac{\text{the total of students score that answer true item}}{n_{19}} \\ &= \frac{22+18+15+21+6+16+19+20+19+17+19+16+14+21+14+11+22+15+20+17+21+20}{22} \\ M_{p19} &= \frac{391}{22} = 17.77 \end{aligned}$$

$$\text{Item 20 } M_{p20} = \frac{\text{the total of students score that answer true item}}{n20}$$

$$M_{p20} = \frac{21+16+22+18++15+21+16+19+20+19+17+16+19+14+21+11+22+17+15+20+17+21+20}{23}$$

$$M_{p20} = \frac{417}{23} = 18.13$$

$$\text{Item 21 } M_{p21} = \frac{\text{the total of students score that answer true item}}{n21}$$

$$M_{p21} = \frac{21+22+18+15+21+17+13+16+19+20+19+17+16+19+14+13+21+22+17+20+8+17+21+20}{24}$$

$$M_{p21} = \frac{426}{24} = 17.75$$

$$\text{Item 22 } M_{p22} = \frac{\text{the total of students score that answer true item}}{n22}$$

$$M_{p22} = \frac{21+16+18+15+21+17+20+19+17+16+19+16+13+21+14+22+15+20+8+21+20}{21}$$

$$M_{p22} = \frac{369}{21} = 17.57$$

$$\text{Item 23 } M_{p23} = \frac{\text{the total of students score that answer true item}}{n16}$$

$$M_{p23} = \frac{21+16+22+18+15+21+17+16+20+17+16+19+16+21+14+22+17+15+20+17+21+20}{22}$$

$$M_{p23} = \frac{401}{22} = 18.22$$

$$\text{Item 24 } M_{p24} = \frac{\text{the total of students score that answer true item}}{n24}$$

$$M_{p24} = \frac{21+16+22+18+21+17+13+16+19+20+19+17+16+19+16+14+13+21+14+22+17+20+8+17+21+20}{26}$$

$$M_{p24} = \frac{467}{26} = 17.57$$

$$\text{Item 25 } M_{p25} = \frac{\text{the total of students score that answer true item}}{n25}$$

$$M_{p25} = \frac{21+16+22+15+21+17+13+16+19+17+16+16+13+21+14+11+22+15+20+17+21+20}{22}$$

$$M_{p25} = \frac{393}{22} = 17.86$$

## 8. Calculation of the Formulation r

$$r_{pbi} = \frac{M_p - M_t}{SD_t} \sqrt{\frac{p}{q}}$$

$$\text{Item 1} = r_{pbi} = \frac{M_p - M_t}{SD_t} \sqrt{\frac{p}{q}}$$

$$r_{\text{pbi}} = \frac{18.10 - 16.80}{3.38} \sqrt{\frac{0.3}{0.7}}$$

$$r = \frac{1.30}{3.38} \sqrt{0.428}$$

$$r = 0.384 \times 0.55 = 0.211$$

Item 2

$$r_{\text{pbi}} = \frac{17.78 - 16.80}{3.38} \sqrt{\frac{0.6}{0.4}}$$

$$r = \frac{0.98}{3.38} \sqrt{1.50}$$

$$r = 0.289 \times 1.22 = 0.352$$

Item 3

$$r_{\text{pbi}} = \frac{17.58 - 16.80}{3.38} \sqrt{\frac{0.8}{0.2}}$$

$$r = \frac{0.78}{3.38} \sqrt{4}$$

$$r = 0.230 \times 2 = 0.460$$

Item 4

$$r_{\text{pbi}} = \frac{18.20 - 16.80}{3.38} \sqrt{\frac{0.5}{0.5}}$$

$$r = \frac{1.40}{3.38} \sqrt{1}$$

$$r = 0.414 \times 1 = 0.414$$

Item 5

$$r_{\text{pbi}} = \frac{17.00 - 16.80}{3.38} \sqrt{\frac{0.4}{0.6}}$$

$$r = \frac{0.20}{3.38} \sqrt{0.66}$$

$$r = 0.059 \times 0.31 = 0.0183$$

Item 6

$$r_{\text{pbi}} = \frac{17.06 - 16.80}{3.38} \sqrt{\frac{0.5}{0.5}}$$

$$r = \frac{0.26}{3.38} \sqrt{1}$$

$$r = 0.076 \times 1 = 0.076$$

Item 7

$$r_{\text{pbi}} = \frac{17.66 - 16.80}{3.38} \sqrt{\frac{0.7}{0.3}}$$

$$r = \frac{0.86}{3.38} \sqrt{1.5}$$

$$r = 0.254 \times 1.52 = 0.386$$

Item 8

$$r_{\text{pbi}} = \frac{18.13 - 16.80}{3.38} \sqrt{\frac{0.5}{0.5}}$$

$$r = \frac{1.33}{3.38} \sqrt{1}$$

$$r = 0.393 \times 1 = 0.393$$

$$\begin{aligned}\text{Item 9 } r_{\text{pbi}} &= \frac{17.31-16.80}{3.38} \sqrt{\frac{0.5}{0.5}} \\ r &= \frac{0.51}{3.38} \sqrt{1} \\ r &= 0.150 \times 1 = 0.150\end{aligned}$$

$$\begin{aligned}\text{Item 10 } r_{\text{pbi}} &= \frac{17.87-16.80}{3.38} \sqrt{\frac{0.8}{0.2}} \\ r &= \frac{1.07}{3.38} \sqrt{4} \\ r &= 0.316 \times 2 = 0.632\end{aligned}$$

$$\begin{aligned}\text{Item 11 } r_{\text{pbi}} &= \frac{17.54-16.80}{3.38} \sqrt{\frac{0.8}{0.2}} \\ r &= \frac{0.740}{3.38} \sqrt{4} \\ r &= 0.218 \times 2 = 0.436\end{aligned}$$

$$\begin{aligned}\text{Item 12 } r_{\text{pbi}} &= \frac{18.45-16.80}{3.38} \sqrt{\frac{0.7}{0.3}} \\ r &= \frac{1.65}{3.38} \sqrt{2.33} \\ r &= 0.488 \times 1.52 = 0.741\end{aligned}$$

$$\begin{aligned}\text{Item 13 } r_{\text{pbi}} &= \frac{17.60-16.80}{3.38} \sqrt{\frac{0.8}{0.2}} \\ r &= \frac{0.80}{3.38} \sqrt{4} \\ r &= 0.236 \times 2 = 0.472\end{aligned}$$

$$\begin{aligned}\text{Item 14 } r_{\text{pbi}} &= \frac{18.34-16.80}{3.38} \sqrt{\frac{0.7}{0.3}} \\ r &= \frac{1.54}{3.38} \sqrt{2.33} \\ r &= 0.455 \times 1.52 = 0.691\end{aligned}$$

$$\begin{aligned}\text{Item 15 } r_{\text{pbi}} &= \frac{16.27-16.80}{3.38} \sqrt{\frac{0.3}{0.7}} \\ r &= \frac{-0.53}{3.38} \sqrt{0.428} \\ r &= -0.156 \times 0.55 = -0.085\end{aligned}$$

$$\begin{aligned} \text{Item 16 } r_{\text{pbi}} &= \frac{17.95-16.80}{3.38} \sqrt{\frac{0.7}{0.3}} \\ r &= \frac{1.15}{3.38} \sqrt{2.33} \\ r &= 0.340 \times 1.52 = 0.516 \end{aligned}$$

$$\begin{aligned} \text{Item 17 } r_{\text{pbi}} &= \frac{17.86-16.80}{3.38} \sqrt{\frac{0.7}{0.3}} \\ r &= \frac{1.06}{3.38} \sqrt{2.33} \\ r &= 0.313 \times 1.52 = 0.475 \end{aligned}$$

$$\begin{aligned} \text{Item 18 } r_{\text{pbi}} &= \frac{17.70-16.80}{3.38} \sqrt{\frac{0.8}{0.2}} \\ r &= \frac{0.90}{3.38} \sqrt{4} \\ r &= 0.266 \times 2 = 0.532 \end{aligned}$$

$$\begin{aligned} \text{Item 19 } r_{\text{pbi}} &= \frac{17.77-16.80}{3.38} \sqrt{\frac{0.7}{0.3}} \\ r &= \frac{0.97}{3.38} \sqrt{2.33} \\ r &= 0.287 \times 1.52 = 0.436 \end{aligned}$$

$$\begin{aligned} \text{Item 20 } r_{\text{pbi}} &= \frac{18.13-16.80}{3.38} \sqrt{\frac{0.7}{0.3}} \\ r &= \frac{1.33}{3.38} \sqrt{2.33} \\ r &= 0.393 \times 1.52 = 0.597 \end{aligned}$$

$$\begin{aligned} \text{Item 21 } r_{\text{pbi}} &= \frac{17.75-16.80}{3.38} \sqrt{\frac{0.8}{0.2}} \\ r &= \frac{0.95}{3.38} \sqrt{4} \\ r &= 0.281 \times 2 = 0.562 \end{aligned}$$

$$\begin{aligned} \text{Item 22 } r_{\text{pbi}} &= \frac{17.76-16.80}{3.38} \sqrt{\frac{0.7}{0.3}} \\ r &= \frac{0.77}{3.38} \sqrt{2.33} \\ r &= 0.227 \times 1.52 = 0.425 \end{aligned}$$

$$\begin{aligned} \text{Item 23 } r_{\text{pbi}} &= \frac{18.22-16.80}{3.38} \sqrt{\frac{0.7}{0.3}} \\ r &= \frac{1.42}{3.38} \sqrt{2.33} \end{aligned}$$

$$r = 0.420 \times 1.52 = 0.638$$

$$\text{Item 24 } r_{\text{pbi}} = \frac{17.57 - 16.80}{3.38} \sqrt{\frac{0.8}{0.2}}$$

$$r = \frac{0.77}{3.38} \sqrt{4}$$

$$r = 0.277 \times 2 = 0.454$$

$$\text{Item 25 } r_{\text{pbi}} = \frac{17.86 - 16.80}{3.38} \sqrt{\frac{0.7}{0.3}}$$

$$r = \frac{1.06}{3.38} \sqrt{2.33}$$

$$r = 0.313 \times 1.52 = 0.475$$



# Appendix 12

## Reability of Pre Test

No	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	Xt	Xt <sup>2</sup>	
1	1	1	1	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	22	484
2	1	1	1	0	0	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	0	1	1	0	1	1	20	400
3	1	1	0	0	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	0	1	1	1	1	21	441
4	1	1	1	0	0	1	1	1	1	1	1	1	1	1	0	1	0	1	1	1	0	1	1	1	1	0	19	361
5	0	0	0	0	1	0	0	0	1	0	0	1	0	0	0	0	0	1	0	0	0	0	1	0	1	1	7	49
6	1	1	1	0	0	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	0	1	1	1	1	21	441
7	0	1	1	0	0	1	1	0	1	1	0	1	1	1	0	1	1	1	1	1	0	0	0	1	1	0	15	324
8	1	1	0	0	0	1	0	1	0	0	1	1	1	0	0	0	0	1	1	0	1	0	0	1	1	1	12	144
9	1	1	1	0	0	1	1	1	1	1	1	1	0	1	0	1	1	1	1	1	0	1	0	1	1	0	18	324
10	0	0	1	0	0	0	1	0	1	1	1	1	1	1	1	1	1	0	0	1	1	0	0	1	1	1	15	225
11	0	1	1	0	0	0	1	0	0	0	0	0	1	0	0	0	1	0	1	0	0	0	0	1	1	1	9	81
12	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	0	1	22	484
13	1	0	0	0	0	1	1	1	0	0	0	0	1	1	0	1	1	1	1	1	1	1	1	1	1	1	16	256
14	1	1	1	0	0	0	0	1	1	1	0	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	19	361
15	1	1	1	0	0	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	22	484
16	1	1	0	1	1	1	0	1	1	1	1	1	1	0	1	0	1	1	1	1	1	0	1	1	1	1	20	400
17	1	1	1	1	1	1	0	0	0	1	0	1	1	1	0	0	1	0	1	1	1	1	1	1	0	1	17	289
18	1	0	0	0	0	1	1	0	0	1	1	1	0	1	0	0	1	0	1	0	1	1	1	1	1	1	14	196
19	0	1	1	0	0	1	1	1	1	0	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	20	400
20	1	1	1	1	1	1	1	1	0	1	0	1	1	1	0	1	1	0	1	0	0	1	1	0	0	17	289	
21	1	1	0	0	0	1	1	1	1	1	1	0	1	1	0	1	1	1	1	1	1	1	1	1	1	1	20	400
22	1	1	0	0	0	1	1	1	1	1	1	0	1	1	1	0	1	1	1	1	1	0	1	1	0	0	17	289
23	1	0	0	1	1	1	0	1	1	0	1	1	1	1	1	1	0	0	1	0	1	0	1	1	1	1	17	289
24	0	0	0	0	1	0	0	0	1	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	4	16
25	1	1	1	1	1	1	0	1	1	1	0	0	1	0	1	1	1	1	1	1	1	1	1	1	1	1	21	441
26	0	0	0	0	1	0	0	0	0	0	0	0	1	1	0	0	0	1	0	0	0	0	0	1	0	0	5	25
27	1	0	0	0	1	1	1	1	1	0	0	1	0	0	1	1	1	0	0	0	0	1	1	0	0	0	12	144
28	1	1	1	0	0	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	21	441
29	1	1	1	1	0	1	1	1	0	1	1	0	1	0	0	1	1	1	1	1	0	1	0	1	1	1	18	324
30	0	1	1	0	0	1	0	1	1	1	1	1	1	0	0	1	1	1	1	1	1	1	1	1	1	1	19	361
<b>N=</b> <b>30</b>	22	22	18	7	11	23	18	23	22	21	16	24	25	21	12	21	23	22	26	12	21	21	24	23	22	$\sum x =$ <b>500</b>	$\sum x^2 =$ <b>9064</b>	

<b>p</b>	0,7	0,7	0,6	0,2	0,4	0,8	0,6	0,8	0,7	0,7	0,5	0,8	0,8	0,7	0,4	0,7	0,8	0,7	0,9	0,4	0,7	0,7	0,8	0,8	0,7		
<b>q</b>	0,3	0,3	0,4	0,8	0,6	0,2	0,4	0,2	0,3	0,3	0,5	0,2	0,2	0,3	0,6	0,3	0,2	0,3	0,1	0,6	0,3	0,3	0,2	0,2	0,3		
<b>p·q</b>	0.2 1	0.2 1	0.2 4	0.1 6	0.2 4	0.1 6	0. 24	0.1 6	0.2 1	0.2 1	0.2 5	0.1 6	0. 16	0.2 1	0.2 4	0.2 1	0.1 6	0.2 1	0.0 9	0.2 4	0.2 1	0.2 1	0.1 6	0.1 6	0. 21	<b><math>\Sigma pq =</math> 4.92</b>	

# Appendix 13

## Reliability of Post Test

No	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	Xt	Xt <sup>2</sup>		
1	1	1	1	1	0	1	1	0	1	1	1	1	1	1	0	1	1	1	0	1	1	1	1	1	1	1	21	441	
2	0	1	1	0	0	1	0	0	1	1	1	1	1	1	0	1	0	1	0	1	0	1	1	1	1	1	16	256	
3	1	1	1	1	0	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	0	1	1	1	22	484	
4	0	1	1	1	0	1	0	0	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	0	19	361	
5	0	1	1	1	0	1	0	0	1	0	0	0	1	0	1	1	1	1	1	1	1	1	1	1	0	1	15	225	
6	0	1	1	1	0	0	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	21	441	
7	0	1	1	0	1	1	0	0	0	1	1	1	1	1	1	1	0	1	0	0	1	1	1	1	1	1	17	289	
8	0	0	0	0	0	0	0	1	0	0	1	0	1	0	1	0	1	0	1	0	0	0	0	0	0	0	6	36	
9	0	0	1	0	1	0	1	1	1	1	1	0	1	1	0	0	0	1	0	0	1	0	0	1	1	1	13	169	
10	0	0	1	0	0	1	1	1	0	1	1	1	1	0	0	1	0	1	1	1	1	1	0	1	1	1	16	256	
11	0	0	1	0	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	0	0	1	1	19	361	
12	0	0	1	1	1	1	0	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	20	400	
13	1	0	1	1	1	0	1	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	0	19	361	
14	1	0	1	0	0	1	1	1	0	0	0	1	1	1	0	1	0	1	1	1	1	1	1	1	1	1	17	289	
15	0	0	1	0	0	0	1	0	0	1	1	0	1	1	1	1	1	1	0	1	1	1	1	1	1	1	16	256	
16	1	0	1	1	1	1	0	1	1	0	0	1	1	1	0	1	1	1	1	1	1	1	1	1	1	0	19	361	
17	0	1	0	0	1	1	0	1	0	1	1	1	1	1	0	1	1	0	1	0	0	1	1	1	1	1	16	256	
18	1	1	1	1	0	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	1	1	0	0	1	0	14	156
19	0	0	1	0	1	1	0	1	1	1	0	1	0	0	0	1	0	1	0	0	1	1	0	1	1	1	13	169	
20	1	1	0	1	1	1	1	1	1	1	1	1	0	1	1	0	1	0	1	1	1	1	1	1	1	1	21	441	
21	0	1	0	1	0	1	1	0	1	1	1	1	0	0	0	1	1	0	1	0	0	1	1	1	1	1	14	196	
22	1	1	1	0	0	1	1	1	1	0	0	0	0	0	0	0	0	1	1	1	1	0	0	0	0	1	11	121	
23	0	1	1	1	1	1	0	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	22	484	
24	0	1	1	0	1	1	0	0	1	1	1	1	1	1	0	1	1	1	0	1	1	0	1	1	0	1	17	289	
25	0	1	1	0	0	0	0	0	1	1	1	0	1	1	0	1	1	1	1	1	1	0	1	1	0	1	15	225	
26	1	1	1	1	0	1	0	0	0	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	20	400	
27	0	0	0	0	1	1	1	0	0	0	0	0	1	0	1	0	0	0	0	0	0	1	1	0	1	0	8	64	
28	1	1	0	0	1	0	0	0	0	1	1	1	1	1	1	0	1	1	1	1	1	1	0	1	1	1	17	289	
29	0	1	1	1	0	1	0	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	21	441	
30	0	1	1	1	0	0	1	0	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	20	400	
N=30	10	19	24	16	13	21	15	15	16	24	24	22	25	23	11	22	22	24	22	23	24	21	22	26	22	$\sum X_t$ = 504	$\sum X_t^2$ = 8920		
P	0.3	0.6	0.8	0.5	0.4	0.7	0.5	0.5	0.5	0.8	0.8	0.7	0.8	0.7	0.3	0.7	0.7	0.8	0.7	0.7	0.8	0.7	0.7	0.8	0.7	0.7			

q	0.7	0.4	0.2	0.5	0.6	0.3	0.5	0.5	0.2	0.3	0.2	0.3	0.2	0.3	0.7	0.3	0.3	0.2	0.3	0.3	0.2	0.3	0.3	0.2	0.3	
p·q	0.2 1	0.2 4	0.1 6	0.2 5	0.1 6	0.2 1	0.2 5	0.2 25	0.2 5	0.1 16	0.2 6	0.2 1	0.16	0.2 1	0.2 1	0.2 1	0.2 1	0.16	0.2 1	0.2 1	0.1 16	0.2 1	0.2 1	0.1 6	0.2 1	$\sum pq =$ <b>4.79</b>

## Appendix 14

### Reliability Pre test

$$R_{11} = \left( \frac{n}{n-1} \right) \left( \frac{S_t^2 - \sum pq}{S_t^2} \right)$$

$$N = 30$$

$$\sum X_t = 500$$

$$\sum X_t^2 = 9064$$

$$\sum pq = 4,92$$

$$\begin{aligned} S_t^2 &= \sum X_t^2 - \left( \frac{\sum X_t}{N} \right)^2 \\ &= 9064 - \left( \frac{500}{30} \right)^2 = 9064 - \frac{250000}{30} = 9064 - 8333 = 731 \end{aligned}$$

$$S_t^2 = \frac{\sum X_t^2}{N} = \frac{731}{30}$$

$$S_t^2 = 24.36$$

$$R_{11} = \left( \frac{n}{n-1} \right) \left( \frac{S_t^2 - \sum pq}{S_t^2} \right)$$

$$R_{11} = \left( \frac{30}{30-1} \right) \left( \frac{24.36 - 4.92}{24.36} \right) = \left( \frac{30}{29} \right) \left( \frac{19.44}{24.36} \right)$$

$$\begin{aligned} &= (1.03) (0.79) \\ &= 0.81 \quad (r_{11} > 0.70 = \text{reliable}) \end{aligned}$$

## Appendix 15

### Reliability Post Test

$$R_{11} = \left( \frac{n}{n-1} \right) \left( \frac{S_t^2 - \sum pq}{S_t^2} \right)$$

$$N = 30$$

$$\sum X_t = 504$$

$$\sum X_t^2 = 8920$$

$$\sum pq = 4.79$$

$$\begin{aligned} S_t^2 &= \sum X_t^2 - \left(\frac{\sum X_t}{N}\right)^2 \\ &= 8920 - \left(\frac{504}{30}\right)^2 = 8920 - \frac{254016}{30} = 8920 - 8467.2 = 452.8 \end{aligned}$$

$$S_t^2 = \frac{\sum X_t^2}{N} = \frac{452.8}{30}$$

$$S_t^2 = 15.0933$$

$$R_{11} = \left(\frac{n}{n-1}\right) \left(\frac{S_t^2 - \sum pq}{S_t^2}\right)$$

$$R_{11} = \left(\frac{30}{30-1}\right) \left(\frac{452.8 - 4.72}{452.8}\right) = \left(\frac{30}{29}\right) \left(\frac{448.08}{452.8}\right)$$

$$= (1.03) (0.98)$$

$$= 1.009$$

$$= 1.009 \quad (r_{11} > 0.70 = \text{reliable})$$

## Appendix 16

### Kelas XI IPA 2 (Experimental Class)

No.	Nama	Nilai	
		Pre Test	Post Test
1	AAP	60	80
2	AP	50	70
3	AAS	70	95
4	EHN	60	80
5	FR	65	90
6	HM	45	70
7	IFD	65	85
8	KH	60	80
9	LA	75	95
10	MSS	60	80
11	FSH	55	75
12	MKN	50	70
13	NS	65	85
14	NH	75	95
15	PM	50	75
16	QP	65	90
17	RSH	60	80
18	RA	70	90
19	RA	60	80
20	RR	45	65
21	SLD	65	90
22	SNA	50	65
23	SOS	60	80
24	SRH	70	95
25	SDD	50	70
26	SS	70	85
27	TPW	60	80
28	YS	55	75

## Appendix 17

**Kelas XI IPA 1 (Control Class)**

<b>No.</b>	<b>Nama</b>	<b>Nilai</b>	
		<b>Pre Test</b>	<b>Post Test</b>
<b>1</b>	<b>AM</b>	<b>60</b>	<b>70</b>
<b>2</b>	<b>AN</b>	<b>75</b>	<b>90</b>
<b>3</b>	<b>AR</b>	<b>55</b>	<b>65</b>
<b>4</b>	<b>AN</b>	<b>70</b>	<b>85</b>
<b>5</b>	<b>AF</b>	<b>45</b>	<b>70</b>
<b>6</b>	<b>AS</b>	<b>50</b>	<b>70</b>
<b>7</b>	<b>AF</b>	<b>60</b>	<b>75</b>
<b>8</b>	<b>BL</b>	<b>75</b>	<b>95</b>
<b>9</b>	<b>DS</b>	<b>50</b>	<b>65</b>
<b>10</b>	<b>DM</b>	<b>55</b>	<b>75</b>
<b>11</b>	<b>AR</b>	<b>75</b>	<b>95</b>
<b>12</b>	<b>FC</b>	<b>60</b>	<b>80</b>
<b>13</b>	<b>SK</b>	<b>70</b>	<b>90</b>
<b>14</b>	<b>FR</b>	<b>75</b>	<b>95</b>
<b>15</b>	<b>FH</b>	<b>65</b>	<b>80</b>
<b>16</b>	<b>IR</b>	<b>60</b>	<b>75</b>
<b>17</b>	<b>NB</b>	<b>65</b>	<b>80</b>
<b>18</b>	<b>IL</b>	<b>60</b>	<b>80</b>
<b>19</b>	<b>MA</b>	<b>55</b>	<b>80</b>
<b>20</b>	<b>MI</b>	<b>65</b>	<b>90</b>
<b>21</b>	<b>NR</b>	<b>45</b>	<b>70</b>
<b>22</b>	<b>NW</b>	<b>70</b>	<b>95</b>
<b>23</b>	<b>PLG</b>	<b>50</b>	<b>80</b>
<b>24</b>	<b>PSS</b>	<b>60</b>	<b>80</b>
<b>25</b>	<b>RAW</b>	<b>50</b>	<b>80</b>
<b>26</b>	<b>RK</b>	<b>75</b>	<b>95</b>
<b>27</b>	<b>RL</b>	<b>55</b>	<b>80</b>
<b>28</b>	<b>RR</b>	<b>60</b>	<b>85</b>
<b>29</b>	<b>TA</b>	<b>60</b>	<b>85</b>
<b>30</b>	<b>VEP</b>	<b>70</b>	<b>90</b>



**Appendix 18**

**RESULT OF NORMALITY TEST IN PRE TEST**

**RESULT OF THE NORMALITY TEST OF XI IPA-1 IN PRE-TEST**

1. The score of XI IPA-1 class in pre test from low score to high score:

45 45 50 50 50 50 55 55 55 55  
 60 60 60 60 60 60 60 60 65 65  
 65 70 70 70 70 75 75 75 75 75

2. High = 75  
 Low = 45  
 Range = High – Low  
       = 75 – 45  
       = 30

3. Total of Classes =  $1 + 3,3 \log (n)$   
                       =  $1 + 3,3 \log (30)$   
                       =  $1 + 3,3 ( 1,47)$   
                       =  $1 + 4.85$   
                       = 5.85  
                       = 6

4. Length of Classes =  $\frac{range}{total\ of\ class} = \frac{30}{6} = 5$

5. Mean

Interval Class	F	X	x	fx	x <sup>2</sup>	fx <sup>2</sup>
45 – 49	2	47	3	6	9	18
50 – 54	4	52	2	8	4	16
55 – 59	4	57	1	4	1	4
60 – 64	8	62	0	0	0	0
65 – 69	3	67	-1	-3	1	3
70 – 74	4	72	-2	-8	4	16
75 – 79	5	77	-3	-15	9	45
<i>i</i> = 5	30	-	-	-8	-	102

$$Mx = M^1 + i \frac{\sum fx^1}{N}$$

$$= 62 + 5\left(\frac{-8}{30}\right)$$

$$= 62 + 5(-0.26)$$

$$= 62 + (-1.3)$$

$$= 60.7$$

$$\begin{aligned} SD_t &= i \sqrt{\frac{\sum fx'^2}{N} - \left[\frac{\sum fx'}{N}\right]^2} \\ &= 5 \sqrt{\frac{102}{30} - \left(\frac{-8}{30}\right)^2} \\ &= 5 \sqrt{3.4 - (-0.26)^2} \\ &= 5 \sqrt{3.4 - 0.06} \\ &= 5 \sqrt{3.34} \\ &= 5 (1,82) \\ &= 9.1 \end{aligned}$$

Table of Normality Data Test with Chi Kuadrat Formula

Interval of Score	Real Upper Limit	Z - Score	Limit of Large of the Area	Large of area	$f_h$	$f_0$	$\frac{(f_0 - f_h)}{f_h}$
-------------------	------------------	-----------	----------------------------	---------------	-------	-------	---------------------------

75 – 79	79.5	2.01	0.4778	0.04	1.2	5	3.16	
70 – 74	74.5	1.47	0.4292	0.10	3	4	0.33	
65 – 69	69.5	0.94	0.3264	0.16	4.8	3	0.13	
60 – 64	64.5	0.41	0.1591	-0.29	-8.7	8	0.08	
55– 59	59.5	-0.11	0.45620	0.19	5.7	4	-0.29	
50- 54	54.5	-0.64	0.26109	0.14	4.2	4	-0.04	
45 – 49	49.5	-1.18	0.11900	0.07	2.1	2	-0.04	
	44.5	-1.71	0.04363					
$X^2$								3.33

Based on table above, researcher found that  $x^2_{count} = 3.33$  while  $x^2_{table} = 5.991$  cause  $x^2_{count} < x^2_{table}$  ( $3.33 < 5.991$ ) with degree of freedom  $dk = 5 - 3 = 2$  and significant level  $\alpha = 5\%$ . So distribution of IPA-1 class (Pre-test) is normal.

## 6. Median

No	Interval of Classes	F	Fk
1	45 – 49	2	2
2	50 - 54	4	6
3	55 - 59	4	10
4	60 - 64	8	18
5	65 - 69	3	21
6	70 - 74	4	25
7	75 - 79	5	30

Position of Me in the interval of classes is number 4, that:

$$Bb = 59.5$$

$$F = 4$$

$$fm = 8$$

$$i = 5$$

$$n = 30$$

$$1/2n = 15$$

So :

$$Me = Bb + i \left( \frac{n/2 - F}{fm} \right)$$

$$= 59,5 + 5 \left( \frac{15-4}{8} \right)$$

$$= 59.5 + 5 (1.37)$$

$$= 59.5 + 6.85$$

$$= 66.35$$

## 7. Modus

No	Interval of Classes	F	Fk
1	45 - 49	2	2
2	50 - 54	4	6
3	55 - 59	4	10
4	60 - 64	8	18
5	65 - 69	3	21
6	70 - 74	4	25
7	75 - 79	5	30

$$M_o = L + \frac{d_1}{d_1 + d_2} i$$

$$L = 59.5$$

$$d_1 = 4$$

$$d_2 = 5$$

$$i = 5$$

$$\begin{aligned} M_o &= 59.5 + \frac{5}{5+5} 5 \\ &= 59.5 + 0.44 (5) \\ &= 59.5 + 2.2 \\ &= 61.7 \end{aligned}$$

### **RESULT OF NORMALITY TEST IN PRE TEST**

#### **RESULT OF THE NORMALITY TEST OF XI IPA-2 IN PRE-TEST**

1. The score of XI IPA-2 class in pre test from low score to high score:

45	45	50	50	50	50	55	55	60	60
60	60	60	60	60	60	60	65	65	65
65	65	70	70	70	70	75	75		

2. High = 75

$$\text{Low} = 45$$

$$\text{Range} = \text{High} - \text{Low}$$

$$= 75 - 45$$

$$= 30$$

$$3. \quad \text{Total of Classes} = 1 + 3,3 \log (n)$$

$$= 1 + 3,3 \log (28)$$

$$= 1 + 3,3 (1,44)$$

$$= 1 + 4.75$$

$$= 5.75$$

$$= 6$$

$$4. \quad \text{Length of Classes} = \frac{\text{range}}{\text{total of class}} = \frac{30}{6} = 5$$

5. Mean

Interval Class	F	X	x'	fx'	x' <sup>2</sup>	fx' <sup>2</sup>
45 - 49	2	47	3	6	9	18
50 - 54	4	52	2	8	4	16
55 - 59	2	57	1	2	1	2
60 - 64	9	62	0	0	0	0
65 - 69	5	67	-1	-5	1	5
70 - 74	4	72	-2	-8	4	16
75 - 79	2	77	-3	-6	9	18
<i>i</i> = 5	28	-	-	-8	-	75

$$M_x = M^1 + i \frac{\sum fx'}{N}$$

$$= 62 + 5 \left( \frac{-3}{28} \right)$$

$$= 62 + 5 (-0.10)$$

$$= 62 + (-0.5)$$

$$= 61.5$$

$$SD_t = i \sqrt{\frac{\sum fx'^2}{N} - \left[ \frac{\sum fx'}{N} \right]^2}$$

$$\begin{aligned}
&= \sqrt[5]{\frac{75}{28} - \left(\frac{-3}{28}\right)^2} \\
&= \sqrt[5]{3.4 - (-0.10)^2} \\
&= \sqrt[5]{2.67 - 0.01} \\
&= \sqrt[5]{2.66} \\
&= 5 (1.63) \\
&= 8.15
\end{aligned}$$

Table of Normality Data Test with Chi Kuadrat Formula

Interval of Score	Real Upper Limit	Z – Score	Limit of Large of the Area	Large of area	f <sub>h</sub>	f <sub>0</sub>	$\frac{(f_0-f_h)}{f_h}$
75 – 79	79.5	2.08	0.4812				
	74.5	1.47	0.4292	0.05	1.4	2	0.42
70 – 74	69.5	0.85	0.3023	0.12	3.36	4	0.19
65 – 69	64.5	0.24	0.0948	0.20	5.6	5	-0.10
60 – 64	59.5	-0.36	0.35942	-0.26	-7.28	9	0.23
55 – 59	54.5	-0.98	0.16354	0.19	5.32	2	-0.62
50 – 54	49.5	-1.59	0.05592	0.10	2.8	4	0.42
45 – 49	44.5	-2.20	0.01390	0.074	1.12	2	0.78
						X <sup>2</sup>	1.32

Based on table above, reseracher found that  $x^2_{\text{count}} = 1.32$  while  $x^2_{\text{table}} = 5.991$  cause  $x^2_{\text{cause}} < x^2_{\text{table}}$  ( $1.32 < 5.991$ ) with degree of freedom  $dk = 5 - 3 = 2$  and significat level  $\alpha = 5\%$ . So distribution of IPA-2 class (Pre-test) is normal.

## 6. Median

No	Interval of Classes	F	Fk
1	45 - 49	2	2
2	50 - 54	4	6
3	55 - 59	2	8
4	60 - 64	9	17
5	65 - 69	5	22
6	70 - 74	4	26
7	75 - 79	2	28

Position of Me in the interval of classes is number 4, that:

$$Bb = 59.5$$

$$F = 2$$

$$fm = 9$$

$$i = 5$$

$$n = 28$$

$$1/2n = 14$$

So :

$$\begin{aligned} Me &= Bb + i \left( \frac{\frac{n}{2} - F}{fm} \right) \\ &= 59,5 + 5 \left( \frac{14-2}{9} \right) \end{aligned}$$



$$= 59.5 + 5 (1.33)$$

$$= 59.5 + 6.55$$

$$= 66.15$$

## 7. Modus

No	Interval of Classes	F	Fk
1	45 - 49	2	2
2	50 - 54	4	6
3	55 - 59	2	8
4	60 - 64	9	17
5	65 - 69	5	22
6	70 - 74	4	26
7	75 - 79	2	38

$$M_o = L + \frac{d_1}{d_1 + d_2} i$$

$$L = 59.5$$

$$d_1 = 7$$

$$d_2 = 4$$

$$i = 5$$

$$\begin{aligned} M_o &= 59.5 + \frac{7}{7+4} 5 \\ &= 59.5 + 0.63 (5) \\ &= 59.5 + 3.15 \\ &= 62.65 \end{aligned}$$

## RESULT OF NORMALITY TEST IN PRE TEST

### RESULT OF THE NORMALITY TEST OF XI IPA-3 IN PRE-TEST

1. The score of XI IPA-3 class in pre test from low score to high score:

35	35	40	40	40	45	45	45	50	50
50	55	55	55	55	55	55	55	55	55
55	55	55	55	55	55	60	60	60	60
60	60	65	65	65	70				

2. High = 75

Low = 35

Range = High – Low

$$= 70 - 35$$

$$= 35$$

3. Total of Classes =  $1 + 3,3 \log (n)$

$$= 1 + 3,3 \log (37)$$

$$= 1 + 3,3 ( 1,56)$$

$$= 1 + 5.14$$

$$= 6.14$$

$$= 6$$

4. Length of Classes =  $\frac{\text{range}}{\text{total of class}} = \frac{35}{6} = 5.83 = 6$

5. Mean

Interval Class	F	X	x'	fx'	x' <sup>2</sup>	fx' <sup>2</sup>
----------------	---	---	----	-----	-----------------	------------------

35 – 40	5	37.5	3	15	9	45
41 – 46	3	42.5	2	6	4	12
47 – 52	3	49.5	1	3	1	3
53 – 58	15	55.5	0	0	0	0
59 – 64	7	61.5	-1	-7	-7	7
65 – 70	4	67.5	-2	-8	-8	16
<i>i</i> = 6	37	-	-	9	-	83

$$\begin{aligned}
 M_x &= M^1 + i \frac{\sum fx^1}{N} \\
 &= 61.5 + 6 \left( \frac{9}{37} \right) \\
 &= 62 + 6(0.24) \\
 &= 62 + (1.44) \\
 &= 62.94
 \end{aligned}$$

$$\begin{aligned}
 SD_t &= i \sqrt{\frac{\sum fx'^2}{N} - \left[ \frac{\sum fx^1}{N} \right]^2} \\
 &= 6 \sqrt{\frac{83}{37} - \left( \frac{9}{37} \right)^2} \\
 &= 6 \sqrt{2.34 - (0.24)^2} \\
 &= 6 \sqrt{2.18} \\
 &= 6(1.47) \\
 &= 8.82
 \end{aligned}$$

Table of Normality Data Test with Chi Kuadrat Formula

Interval of Score	Real Upper Limit	Z – Score	Limit of Large of the Area	Large of area	$f_h$	$f_0$	$\frac{(f_0 - f_h)}{f_h}$
-------------------	------------------	-----------	----------------------------	---------------	-------	-------	---------------------------

65 – 70	70.5	0.85	0.3032	0.23	8.51	4	-0.52
59 – 64	64.5	0.17	0.0675	-0.34	-12.58	7	-0.44
53 – 58	58.5	-0.22	0.41294	0.10	3.70	15	3.05
47 – 52	62.5	-0.50	0.30854	0.27	9.99	3	-0.69
41 – 46	46.5	-1.86	0.03144	0.02	0.74	3	3.05
35- 40	40.5	-2.54	0.00554	0.00	0.00	3	5.00
	34.5	-3.22	0.00064				
$X^2$							9.45

Based on table above, reseracher found that  $x^2_{count} = 9.45$  while  $x^2_{table} = 5.991$  cause  $x^2_{cause} < x^2_{table}$  ( $9.45 < 5.991$ ) with degree of freedom  $dk = 5 - 3 = 2$  and significat level  $\alpha = 5\%$ . So distribution of IPA-3 class (Pre-test) is normal.

## 6. Median

No	Interval of Classes	F	Fk
1	35 – 40	5	5
2	41 - 46	3	8
3	47 - 52	3	11
4	53 - 58	15	26
5	59 - 64	7	33
6	65 - 70	4	37

Position of Me in the interval of classes is number 4, that:

$$Bb = 52.5$$

$$F = 3$$

$$fm = 15$$

$$i = 6$$

$$n = 37$$

$$1/2n = 18.5$$

So :

$$\begin{aligned} Me &= Bb + i \left( \frac{n/2 - F}{fm} \right) \\ &= 52,5 + 6 \left( \frac{18.5-3}{15} \right) \\ &= 52.5 + 6 (1.03) \\ &= 52.5 + 6.18 \\ &= 58.68 \end{aligned}$$

## 7. Modus

No	Interval of Classes	F	Fk
1	35 - 40	5	5
2	41 - 46	3	8
3	47 - 52	3	11
4	53 - 58	15	26
5	59 - 64	7	33
6	65 - 70	4	37

$$M_o = L + \frac{d_1}{d_1 + d_2} i$$

$$L = 52.5$$

$$d_1 = 12$$

$$d_2 = 8$$

$$i = 6$$

$$M_o = 52.5 + \frac{12}{12+8} 6$$

$$= 52.5 + 0.6 (6)$$

$$= 52.5 + 3.6$$

$$= 56.1$$

## Appendix 19

### HOMOGENEITY TEST (PRE-TEST)

Calculation of parameter to get variant of the first class as experimental class sample by using CIRC (Cooperative Integrated Reading and Composition) Strategy and variant of the second class as control class sample by using conventional strategy are used homogeneity test by using formula:

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

Hypotheses:

$$H_0 : \delta_1^2 = \delta_2^2$$

$$H_1 : \delta_1^2 \neq \delta_2^2$$

A. Variant of the XI IPA-1 class is:

NO	Xi	Xi <sup>2</sup>
1	60	3600
2	75	5625
3	55	3025
4	70	4900
5	45	2025
6	50	2500
7	60	3600
8	75	5625
9	50	2500
10	55	3025
11	75	5625
12	60	3600
13	70	4900
14	75	5625
15	65	4225
16	60	3600
17	65	4225
18	60	3600
19	55	3025
20	65	4225

21	45	2025
22	70	4900
23	50	2500
24	60	3600
25	50	2500
26	75	5625
27	55	3025
28	60	3600
29	60	3600
30	70	4900
	1840	115350

$$n = 30$$

$$\sum xi = 1840$$

$$\sum xi^2 = 115350$$

So:

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

$$= \frac{30(115350) - (1840)^2}{30(30-1)}$$

$$= \frac{3460500 - 3385600}{870}$$

$$= \frac{74900}{870}$$

$$= 86.09$$

B. Variant of the XI IPA-2 class is:

NO	Xi	Xi <sup>2</sup>
1	60	3600
2	50	2500
3	70	4900
4	60	3600
5	65	4225
6	45	2025
7	65	4225
8	60	3600
9	75	5625
10	60	3600



11	55	3025
12	50	2500
13	65	4225
14	75	5625
15	50	2500
16	65	4225
17	60	3600
18	70	4900
19	60	3600
20	45	2025
21	65	4225
22	50	2500
23	60	3600
24	70	4900
25	50	2500
26	70	4900
27	60	3600
28	55	3025
	1685	103375

$$n = 28$$

$$\sum xi = 1685$$

$$\sum xi^2 = 103375$$

So:

$$\begin{aligned}
 S^2 &= \frac{n\sum xi^2 - (\sum xi)^2}{n(n-1)} \\
 &= \frac{28(103375) - (1685)^2}{28(28-1)} \\
 &= \frac{2894500 - 2839225}{756} \\
 &= \frac{55275}{756} \\
 &= 73.11
 \end{aligned}$$

C. Variant of the XI IPA - 3 class is:

NO	Xi	Xi <sup>2</sup>
1	35	1225
2	35	1225
3	40	1600
4	40	1600
5	40	1600

6	45	2025
7	45	2025
8	45	2025
9	50	2500
10	50	2500
11	50	2500
12	55	3025
13	55	3025
14	55	3025
15	55	3025
16	55	3025
17	55	3025
18	55	3025
19	55	3025
20	55	3025
21	55	3025
22	55	3025
23	55	3025
24	55	3025
25	55	3025
26	55	3600
27	60	3600
28	60	3600
29	60	3600
30	60	3600
31	60	3600
32	60	3600
33	60	3600
34	65	4225
35	65	4225
36	65	4225
37	70	4900
	1985	109550

$$n = 37$$

$$\sum xi = 1985$$

$$\sum_{xi}^2 = 109550$$

So:

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

$$\begin{aligned}
& \frac{37(109550) - (1985)^2}{37(37-1)} \\
&= \frac{4032075 - 3940225}{37(36)} \\
&= \frac{91850}{1332} \\
&= 68.95
\end{aligned}$$

The Formula was used to test hypothesis was:

1. IX IPA -1 and XI IPA-2 :

$$F = \frac{\textit{The Biggest Variant}}{\textit{The Smallest Variant}}$$

So:

$$\begin{aligned}
F &= \frac{86.09}{73.11} \\
&= 1.17
\end{aligned}$$

After doing the calculation, researcher found that  $F_{\text{count}} = 1.17$  with  $\alpha 5\%$  and  $dk = 28$  and  $30$  from the distribution list F, researcher found that  $F_{\text{table}} = 2.048$  and  $2.042$ , cause  $F_{\text{count}} < F_{\text{table}}$  ( $1.14 < 2.048$  and  $2.042$ ). So, there is no difference the variant between the XI IPA-1 class and XI IPA-2 class. It means that the variant is homogenous.

2. XI IPA-1 and XI IPA-3 :

$$F = \frac{\textit{The Biggest Variant}}{\textit{The Smallest Variant}}$$

So:

$$\begin{aligned}
F &= \frac{86.09}{68.95}
\end{aligned}$$

$$= 1.24$$

After doing the calculation, researcher found that  $F_{\text{count}} = 1.24$  with  $\alpha$  5 % and  $dk = 30$  and  $37$  from the distribution list F, researcher found that  $F_{\text{table}} = 2.042$ , cause  $F_{\text{count}} < F_{\text{table}}$  ( $1.24 < 2.042$ ). So, there is no difference the variant between the XI IPA-1 class and XI IPA-3 class. It means that the variant is homogenous.

3. XI IPA-2 and XI IPA-3 :

$$F = \frac{\textit{The Biggest Variant}}{\textit{The Smallest Variant}}$$

So:

$$F = \frac{73.11}{68.95}$$
$$= 1.06$$

After doing the calculation, researcher found that  $F_{\text{count}} = 1.06$  with  $\alpha$  5 % and  $dk = 28$  and  $37$  from the distribution list F, researcher found that  $F_{\text{table}} = 2.048$  and  $2.042$ , cause  $F_{\text{count}} < F_{\text{table}}$  ( $1.06 < 2.048$  and  $2.042$ ). So, there is no difference the variant between the XI IPA-2 class and XI IPA-3 class. It means that the variant is homogenous.

## Appendix 20

### RESULT OF THE NORMALITY TEST OF EXPERIMENT CLASS IN POST-TEST

1. The score of experiment class in post test from low score to high score:

65 65 70 70 70 70 75 75 75 80  
 80 80 80 80 80 80 80 85 85 85  
 90 90 90 90 95 95 95 95

2. High = 95

Low = 65

Range = High – Low

$$= 95 - 65$$

$$= 30$$

3. Total of Classes =  $1 + 3,3 \log (n)$

$$= 1 + 3,3 \log (28)$$

$$= 1 + 3,3 (1.44)$$

$$= 1 + 4.75$$

$$= 5.75$$

$$= 6$$

4. Length of Classes =  $\frac{\text{range}}{\text{total of class}} = \frac{30}{6} = 5$

5. Mean

Interval Class	F	X	x'	fx	x <sup>2</sup>	fx <sup>2</sup>
65 – 69	2	67	3	6	9	18
70 – 74	4	72	2	8	4	16
75– 79	3	77	1	3	1	3
80 – 84	8	82	0	0	0	0
85 – 89	3	87	-1	-3	1	3
90–94	4	92	-2	-8	4	16
95–99	4	97	-3	-12	9	36
<i>i</i> = 5	28	-		-6		92

$$Mx = M^1 + i \frac{\sum fx^1}{N}$$

$$\begin{aligned}
&= 82 + 5 \left( \frac{-6}{28} \right) \\
&= 82 + 5(-0.21) \\
&= 82 + (-1.05) \\
&= 80.95
\end{aligned}$$

$$\begin{aligned}
SD_t &= i \sqrt{\frac{\sum fx'^2}{N} - \left[ \frac{\sum fx'}{N} \right]^2} \\
&= 5 \sqrt{\frac{92}{28} - \left( \frac{-6}{28} \right)^2} \\
&= 5 \sqrt{3.28 - (0.04)} \\
&= 5 \sqrt{3.24} \\
&= 5 (1.8) \\
&= 9
\end{aligned}$$

Table of Normality Data Test with Chi Kuadrat Formula

Interval of Score	Real Upper Limit	Z - Score	Limit of Large of the Area	Large of area	$f_h$	$f_0$	$\frac{(f_0 - f_h)}{f_h}$
-------------------	------------------	-----------	----------------------------	---------------	-------	-------	---------------------------

95-99	99.5	2.06	0.4803	0.04	1.12	4	2.57
90-94	94.5	1.50	0.4332	0.10	2.8	4	0.42
85-89	89.5	0.95	0.3289	0.17	4.76	3	-0.36
80-84	84.5	0.39	0.1517	-0.28	-7.84	8	-0.02
75-79	79.5	-0.16	0.43644	0.19	5.32	3	-0.43
70-74	74.5	-0.71	0.23885	-0.15	-4.2	4	0.04
65-69	69.5	1.27	0.3980	0.36	10.08	2	-0.80
	64.5	-1.82	0.03438				
$X^2$							1.42

Based on table above, reseracher found that  $x^2_{\text{count}} = 1.42$  while  $x^2_{\text{table}} = 5,991$  cause  $x^2_{\text{cause}} < x^2_{\text{table}}$  ( $1.42 < 5.991$ ) with degree of freedom  $dk = 5 - 3 = 2$  and significat level  $\alpha = 5\%$ . So distribution of experiment class (Post Test) was normal.

## 6. Median

No	Interval of Classes	F	fk
----	---------------------	---	----

1	65 - 69	2	2
2	70 - 74	4	6
3	75 - 79	3	9
4	80 - 84	8	17
5	85 - 89	3	20
6	90 - 94	4	24
7	95 - 99	4	28

Position of Me in the interval of classes is number 4, that:

$$Bb = 79.5$$

$$F = 3$$

$$fm = 8$$

$$i = 5$$

$$n = 28$$

$$1/2n = 14$$

So :

$$Me = Bb + i \left( \frac{n/2 - F}{fm} \right)$$

$$= 79.5 + 5 \left( \frac{14-3}{8} \right)$$

$$= 79.5 + 5(1.37)$$

$$= 79.5 + 6.85$$

$$= 86.35$$

7. Modus

No	Interval of Classes	F	fk
----	---------------------	---	----



1	65 - 69	2	2
2	70 - 74	4	6
3	75 - 79	3	9
4	80 - 84	8	17
5	85 - 89	3	20
6	90 - 94	4	24
7	95 - 99	4	28

$$M_o = L + \frac{d_1}{d_1 + d_2} i$$

$$L = 79.5$$

$$d_1 = 5$$

$$d_2 = 5$$

$$i = 5$$

$$\begin{aligned} M_o &= 79.5 + \frac{5}{5+5} 5 \\ &= 79.5 + 0.5 (5) \\ &= 79.5 + 2.5 \\ &= 82 \end{aligned}$$

## Appendix 21

### RESULT OF THE NORMALITY TEST OF CONTROL CLASS IN POST TEST

1. The score of control class in post test from low score to high score:

60 60 65 65 65 65 70 70 70 70  
 75 75 75 75 75 75 75 75 80 80  
 80 80 85 85 85 90 90 90 90 90

2. High = 90

Low = 60

Range = High – Low  
 = 90 – 60  
 = 30

3. Total of Classes =  $1 + 3,3 \log (n)$   
 =  $1 + 3,3 \log (30)$   
 =  $1 + 3,3 ( 1.47)$   
 =  $1 + 4.85$   
 = 5.85  
 = 6

4. Length of Classes =  $\frac{range}{total\ of\ class} = \frac{30}{6} = 5$

5. Mean

Interval Class	F	X	x'	fx'	x' <sup>2</sup>	fx' <sup>2</sup>
60 – 64	2	62	3	6	9	18
65 – 69	4	67	2	8	4	16
70 – 74	4	72	1	4	1	4
75 – 79	8	77	0	0	0	0
80 – 84	4	82	-1	-4	1	4
85 – 89	3	87	-2	-6	4	12
90 – 94	5	92	-3	-15	9	45
<i>i</i> = 5	30	-	-	-7	-	99

$$M_x = M^1 + i \frac{\sum fx^1}{N}$$

$$= 77 + 5 \left( \frac{-7}{30} \right)$$

$$= 77 + 5(-0.23)$$

$$= 77 + (-1.15)$$

$$= 75.85$$

$$\begin{aligned}
 SD_t &= i \sqrt{\frac{\sum fx'^2}{N} - \left[ \frac{\sum fx'}{N} \right]^2} \\
 &= \sqrt{\frac{99}{30} - \left( \frac{-7}{30} \right)^2} \\
 &= \sqrt{3.3 - (0.23)^2} \\
 &= \sqrt{3.3 - 0.052} \\
 &= \sqrt{3.24} \\
 &= 5 (1.8) \\
 &= 9
 \end{aligned}$$

Table of Normality Data Test with Chi Kuadrat Formula

Interval of Score	Real Upper Limit	Z - Score	Limit of Large of the Area	Large of area	$f_h$	$f_0$	$\frac{(f_0 - f_h)}{f_h}$
-------------------	------------------	-----------	----------------------------	---------------	-------	-------	---------------------------

90 - 94	94.5	2.07	0.4808	0.05	1.5	5	2.33
85 - 89	89.5	1.46	0.4279	0.09	2.7	3	0.11
80 - 84	84.5	0.96	0.3315	0.17	5.1	4	-0.21
75 - 79	79.5	0.40	0.1554	-0.28	-8.4	8	0.04
70 - 74	74.5	-0.15	0.44038	0.19	5.7	4	-0.29
65 - 69	69.5	-0.70	0.24196	0.13	3.9	4	0.02
60 - 64	64.5	-1.26	0.10383	0.06	1.8	2	0.11
	59.5	-1.81	0.03515				
$\chi^2$							2.11

Based on table above, researcher found that  $\chi^2_{\text{count}} = 2.11$  while  $\chi^2_{\text{table}} = 5.991$  cause  $\chi^2_{\text{cause}} < \chi^2_{\text{table}}$  ( $2.11 < 5.991$ ) with degree of freedom  $dk = 5 - 3 = 2$  and significant level  $\alpha = 5\%$ . So distribution of control class (Post-test) was normal.

## 6. Median

No	Interval Class	F	Fk
----	----------------	---	----

1	60 - 64	2	2
2	65 - 69	4	6
3	70 - 74	4	10
4	75 - 79	8	18
5	80 - 84	4	22
6	85 - 89	3	25
7	90 - 94	5	30

Position of Me in the interval of classes is number 4, that:

$$Bb = 74.5$$

$$F = 4$$

$$fm = 8$$

$$i = 5$$

$$n = 30$$

$$1/2n = 15$$

So :

$$\begin{aligned}
 Me &= Bb + i \left( \frac{n/2 - F}{fm} \right) \\
 &= 74.5 + 5 \left( \frac{15 - 4}{8} \right) \\
 &= 74.5 + 5 (1.37) \\
 &= 74.5 + 6.85 \\
 &= 81.35
 \end{aligned}$$

## 7. Modus

No	Interval Class	F	Fk
----	----------------	---	----

1	60 - 64	2	2
2	65 - 69	4	6
3	70 - 74	4	10
4	75 - 79	8	18
5	80 - 84	4	22
6	85 - 89	3	25
7	90 - 94	5	30

$$M_o = L + \frac{d_1}{d_1 + d_2} i$$

$$L = 74.5$$

$$d_1 = 4$$

$$d_2 = 4$$

$$i = 5$$

$$\begin{aligned} M_o &= 74.5 + \frac{4}{4+4} 5 \\ &= 74.5 + 0.5 (5) \\ &= 74.5 + 2.5 \\ &= 77 \end{aligned}$$

## Appendix 22

### HOMOGENEITY TEST (POST TEST)

#### 1. EXPERIMENT CLASS

NO	Xi	Xi <sup>2</sup>
1	80	6400
2	70	4900
3	95	9025
4	80	6400
5	90	8100
6	70	4900
7	85	7225
8	80	6400
9	95	9025
10	80	6400
11	75	5625
12	70	4900
13	85	7225
14	95	9025
15	75	5625
16	90	8100
17	80	6400
18	90	8100
19	80	6400
20	65	4225
21	90	8100
22	65	4225
23	80	6400
24	95	9025
25	70	4900
26	85	7225
27	80	6400
28	75	5625
	2270	186300

$$n = 28$$
$$\sum xi = 2270$$
$$\sum_{xi}^2 = 186300$$

So:

$$\begin{aligned}
S^2 &= \frac{n\sum xi^2 - (\sum xi)^2}{n(n-1)} \\
&= \frac{28(186300) - (2270)^2}{28(28-1)} \\
&= \frac{5216400 - 5152900}{756} \\
&= \frac{63500}{756} \\
&= 83.99
\end{aligned}$$

## 2. CONTROL CLASS

NO	Xi	Xi <sup>2</sup>
1	80	6400
2	85	7225
3	75	5625
4	60	3600
5	85	7225
6	80	6400
7	75	5625
8	90	8100
9	60	3600
10	75	7625
11	90	8100
12	70	4900
13	75	5625
14	90	8100
15	65	4225
16	75	5625
17	80	6400
18	70	4900
19	65	4225
20	80	6400
21	70	4900
22	90	8100
23	65	4225



24	<b>75</b>	5625
25	<b>70</b>	4900
26	<b>90</b>	8100
27	<b>75</b>	5625
28	<b>65</b>	4225
29	<b>85</b>	7225
30	<b>75</b>	5625
	2285	178475

$$n = 30$$

$$\sum xi = 2285$$

$$\sum xi^2 = 178475$$

So:

$$\begin{aligned}
 S^2 &= \frac{n\sum xi^2 - (\sum xi)^2}{n(n-1)} \\
 &= \frac{30(178475) - (2285)^2}{30(30-1)} \\
 &= \frac{5354250 - 5221225}{30(29)} \\
 &= \frac{133025}{870} \\
 &= 152.90
 \end{aligned}$$

The Formula was used to test hypothesis was:

4. XI IPA 1 and XI IPA-2 :

$$F = \frac{\textit{The Biggest Variant}}{\textit{The Smallest Variant}}$$

So:

$$\begin{aligned}
 F &= \frac{152.90}{83.99} \\
 &= 1.82
 \end{aligned}$$

After doing the calculation, researcher found that  $F_{\text{count}} = 1.82$  with  $\alpha 5\%$  and  $dk = 28$  and  $30$  from the distribution list F, researcher found that  $F_{\text{table}} = 2.048$  and  $2.042$ , cause  $F_{\text{count}} < F_{\text{table}}$  ( $1.82 < 2.048$  and  $2.042$ ). So, there is no difference the variant between the XI IPA-1 class and XI IPA-2 class. It means that the variant is homogenous.

## Appendix 23

### T<sub>test</sub> OF THE BOTH AVERAGES IN PRE-TEST

The formula was used to analyse homogeneity test of the both averages was t-test,

that:

$$t = \frac{\bar{X}_1 - \bar{X}_2}{\sqrt{\frac{1}{n_1} + \frac{1}{n_2}}} \text{ with } S = \sqrt{\frac{(n_1 - 1)S_1^2 + (n_2 - 2)S_2^2}{n_1 + n_2 - 2}}$$

So:

$$\begin{aligned} S &= \sqrt{\frac{(28-1) 73.11 + (30-2)86.09}{28+30-2}} \\ &= \sqrt{\frac{27 (73.11) + 28 (86.09)}{56}} \\ &= \sqrt{\frac{1973.97 + 2410.52}{56}} \\ &= \sqrt{\frac{4384.49}{56}} \\ &= \sqrt{78.29} \\ &= 8.84 \end{aligned}$$

So:

$$\begin{aligned} t &= \frac{\bar{X}_1 - \bar{X}_2}{\sqrt{\frac{1}{n_1} + \frac{1}{n_2}}} \\ t &= \frac{62.05 - 60.6}{8.84 \sqrt{\frac{1}{28} + \frac{1}{30}}} \\ &= \frac{1.45}{8.03 \sqrt{0,035 + 0.033}} \end{aligned}$$

$$\begin{aligned}
&= \frac{1.45}{8.84 (0.368)} \\
&= \frac{1.45}{3.25} \\
&= 0.44
\end{aligned}$$

Based on researcher calculation result of the homogeneity test of the both averages, researcher found that  $t_{\text{count}} = 0.44$  with opportunity  $(1 - \alpha) = 1 - 5\% = 95\%$  and  $dk = n_1 + n_2 - 2 = 28 + 30 - 2 = 56$ , researcher found that  $t_{\text{table}} = 2.021$ , cause  $t_{\text{count}} < t_{\text{table}} (0.44 < 2.021)$ . So,  $H_a$  is accepted, it means no difference the average between the first class as experimental class and the second class as control class in this research.

**APPENDIX 25**

**Chi-Square Table**

<b>dk</b>	<b>Significant level</b>					
	<b>50%</b>	<b>30%</b>	<b>20%</b>	<b>10%</b>	<b>5%</b>	<b>1%</b>
<b>1</b>	0,455	1,074	1,642	2,706	3,841	6,635
<b>2</b>	1,386	2,408	3,219	4,605	<b>5,991</b>	9,210
<b>3</b>	2,366	3,665	4,642	6,251	7,815	11,341
<b>4</b>	3,357	4,878	5,989	7,779	9,488	13,277
<b>5</b>	4,351	6,064	7,289	9,236	11,070	15,086
<b>6</b>	5,348	7,231	8,558	10,645	12,592	16,812
<b>7</b>	6,346	8,383	9,803	12,017	14,067	18,475
<b>8</b>	7,344	9,524	11,030	13,362	15,507	20,090
<b>9</b>	8,343	10,656	12,242	14,684	16,919	21,666
<b>10</b>	9,342	11,781	13,442	15,987	18,307	23,209
<b>11</b>	10,341	12,899	14,631	17,275	19,675	24,725
<b>12</b>	11,340	14,011	15,812	18,549	21,026	26,217
<b>13</b>	12,340	15,119	16,985	19,812	22,362	27,688
<b>14</b>	13,339	16,222	18,151	21,064	23,685	29,141
<b>15</b>	14,339	17,222	19,311	22,307	24,996	30,578
<b>16</b>	15,338	18,418	20,465	23,542	26,296	32,000
<b>17</b>	16,338	19,511	21,615	24,769	27,587	33,409
<b>18</b>	17,338	20,601	22,760	25,989	28,869	34,805
<b>19</b>	18,338	21,689	23,900	27,204	30,144	36,191
<b>20</b>	19,337	22,775	25,038	28,412	31,410	37,566
<b>21</b>	20,337	23,858	26,171	29,615	32,671	38,932
<b>22</b>	21,337	24,939	27,301	30,813	33,924	40,289
<b>23</b>	22,337	26,018	28,429	32,007	35,172	41,638
<b>24</b>	23,337	27,096	29,553	33,196	35,415	42,980
<b>25</b>	24,337	28,172	30,675	34,382	37,652	44,314
<b>26</b>	25,336	29,246	31,795	35,563	38,885	45,642
<b>27</b>	26,336	30,319	32,912	36,741	40,113	46,963
<b>28</b>	27,336	31,391	34,027	37,916	41,337	48,278
<b>29</b>	28,336	32,461	35,139	39,087	42,557	49,588
<b>30</b>	29,336	33,530	36,250	40,256	43,773	50,892

**APPENDIX 26**

**Z-Table**

<b>Z</b>	<b>0.00</b>	<b>0.01</b>	<b>0.02</b>	<b>0.03</b>	<b>0.04</b>	<b>0.05</b>	<b>0.06</b>	<b>0.07</b>	<b>0.08</b>	<b>0.09</b>
<b>-3.9</b>	0.00005	0.00005	0.00004	0.00004	0.00004	0.00004	0.00004	0.00004	0.00003	0.00003
<b>-3.8</b>	0.00007	0.00007	0.00007	0.00006	0.00006	0.00006	0.00006	0.00005	0.00005	0.00005
<b>-3.7</b>	0.00011	0.00010	0.00010	0.00010	0.00009	0.00009	0.00008	0.00008	0.00008	0.00008
<b>-3.6</b>	0.00016	0.00015	0.00015	0.00014	0.00014	0.00013	0.00013	0.00012	0.00012	0.00011
<b>-3.5</b>	0.00023	0.00022	0.00022	0.00021	0.00020	0.00019	0.00019	0.00018	0.00017	0.00017
<b>-3.4</b>	0.00034	0.00032	0.00031	0.00030	0.00029	0.00028	0.00027	0.00026	0.00025	0.00024
<b>-3.3</b>	0.00048	0.00047	0.00045	0.00043	0.00042	0.00040	0.00039	0.00038	0.00036	0.00035
<b>-3.2</b>	0.00069	0.00066	0.00064	0.00062	0.00060	0.00058	0.00056	0.00054	0.00052	0.00050
<b>-3.1</b>	0.00097	0.00094	0.00090	0.00087	0.00084	0.00082	0.00079	0.00076	0.00074	0.00071
<b>-3.0</b>	0.00135	0.00131	0.00126	0.00122	0.00118	0.00114	0.00111	0.00107	0.00104	0.00100
<b>-2.9</b>	0.00187	0.00181	0.00175	0.00169	0.00164	0.00159	0.00154	0.00149	0.00144	0.00139
<b>-2.8</b>	0.00256	0.00248	0.00240	0.00233	0.00226	0.00219	0.00212	0.00205	0.00199	0.00193
<b>-2.7</b>	0.00347	0.00336	0.00326	0.00317	0.00307	0.00298	0.00289	0.00280	0.00272	0.00264
<b>-2.6</b>	0.00466	0.00453	0.00440	0.00427	0.00415	0.00402	0.00391	0.00379	0.03680	0.00357
<b>-2.5</b>	0.00621	0.00604	0.00587	0.00570	0.00554	0.00539	0.00523	0.00508	0.00494	0.00480
<b>-2.4</b>	0.00820	0.00798	0.00776	0.00755	0.00734	0.00714	0.00695	0.00676	0.00657	0.00639
<b>-2.3</b>	0.01072	0.01044	0.01017	0.00990	0.00964	0.00939	0.00914	0.00889	0.00866	0.00842
<b>-2.2</b>	0.01390	0.01355	0.01321	0.01287	0.01255	0.01222	0.01191	0.01160	0.01130	0.01101
<b>-2.1</b>	0.01786	0.01743	0.01700	0.01659	0.01618	0.01578	0.01539	0.01500	0.01463	0.01426
<b>-2.0</b>	0.02275	0.02222	0.02169	0.02118	0.02068	0.02018	0.01970	0.01923	0.01876	0.01831
<b>-1.9</b>	0.02872	0.02807	0.02743	0.02680	0.02619	0.02559	0.02500	0.02442	0.02385	0.02330
<b>-1.8</b>	0.03593	0.03515	0.03438	0.03362	0.03288	0.03216	0.03144	0.03074	0.03005	0.02938
<b>-1.7</b>	0.04457	0.04363	0.04272	0.04182	0.04093	0.04006	0.03920	0.03836	0.03754	0.03673

<b>-1.6</b>	0.05480	0.05370	0.05262	0.05155	0.05050	0.04947	0.04846	0.04746	0.04648	0.04551
<b>-1.5</b>	0.06681	0.06552	0.06426	0.06301	0.06178	0.06057	0.05938	0.05821	0.05705	0.05592
<b>-1.4</b>	0.08076	0.07927	0.07780	0.07636	0.07493	0.07353	0.07215	0.07078	0.06944	0.06811
<b>-1.3</b>	0.09680	0.09510	0.09342	0.09176	0.09012	0.08851	0.08691	0.08534	0.08379	0.08226
<b>-1.2</b>	0.11507	0.11314	0.11123	0.10935	0.10749	0.10565	0.10383	0.10204	0.10027	0.09853
<b>-1.1</b>	0.13567	0.13350	0.13136	0.12924	0.12714	0.12507	0.12302	0.12100	0.11900	0.11702
<b>-1.0</b>	0.15866	0.15625	0.15386	0.15151	0.14917	0.14686	0.14457	0.14231	0.14007	0.13786
<b>-0.9</b>	0.18406	0.18141	0.17879	0.17619	0.17361	0.17106	0.16853	0.16602	0.16354	0.16109
<b>-0.8</b>	0.21186	0.20897	0.20611	0.20327	0.20045	0.19766	0.19489	0.19215	0.18943	0.18673
<b>-0.7</b>	0.24196	0.23885	0.23576	0.23270	0.22965	0.22663	0.22363	0.22065	0.21770	0.21476
<b>-0.6</b>	0.27425	0.27093	0.26763	0.26435	0.26109	0.25785	0.25463	0.25143	0.24825	0.24510
<b>-0.5</b>	0.30854	0.30503	0.30153	0.29806	0.29460	0.29116	0.28774	0.28434	0.28096	0.27760
<b>-0.4</b>	0.34458	0.34090	0.33724	0.33360	0.32997	0.32636	0.32276	0.31918	0.31561	0.31207
<b>-0.3</b>	0.38209	0.37828	0.37448	0.37070	0.36693	0.36317	0.35942	0.35569	0.35197	0.34827
<b>-0.2</b>	0.42074	0.41683	0.41294	0.40905	0.40517	0.40129	0.39743	0.39358	0.38974	0.38591
<b>-0.1</b>	0.46017	0.45620	0.45224	0.44828	0.44433	0.44038	0.43644	0.43251	0.42858	0.42465
<b>-0.0</b>	0.50000	0.49601	0.49202	0.48803	0.48405	0.48006	0.47608	0.47210	0.46812	0.46414

**Z-Table**

<b>z</b>	<b>0.00</b>	<b>0.01</b>	<b>0.02</b>	<b>0.03</b>	<b>0.04</b>	<b>0.05</b>	<b>0.06</b>	<b>0.07</b>	<b>0.08</b>	<b>0.09</b>
<b>0.0</b>	0.0000	0.0040	0.0080	0.0120	0.0160	0.0199	0.0239	0.0279	0.0319	0.0359
<b>0.1</b>	0.0398	0.0438	0.0478	0.0517	0.0557	0.0596	0.0636	0.0675	0.0714	0.0753
<b>0.2</b>	0.0793	0.0832	0.0871	0.0910	0.0948	0.0987	0.1026	0.1064	0.1103	0.1141
<b>0.3</b>	0.1179	0.1217	0.1255	0.1293	0.1331	0.1368	0.1406	0.1443	0.1480	0.1517
<b>0.4</b>	0.1554	0.1591	0.1628	0.1664	0.1700	0.1736	0.1772	0.1808	0.1844	0.1879
<b>0.5</b>	0.1915	0.1950	0.1985	0.2019	0.2054	0.2088	0.2123	0.2157	0.2190	0.2224
<b>0.6</b>	0.2257	0.2291	0.2324	0.2357	0.2389	0.2422	0.2454	0.2486	0.2517	0.2549
<b>0.7</b>	0.2580	0.2611	0.2642	0.2673	0.2704	0.2734	0.2764	0.2794	0.2823	0.2852
<b>0.8</b>	0.2881	0.2910	0.2939	0.2967	0.2995	0.3023	0.3051	0.3078	0.3106	0.3133
<b>0.9</b>	0.3159	0.3186	0.3212	0.3238	0.3264	0.3289	0.3315	0.3340	0.3365	0.3389
<b>1.0</b>	0.3413	0.3438	0.3461	0.3485	0.3508	0.3531	0.3554	0.3577	0.3599	0.3621
<b>1.1</b>	0.3643	0.3665	0.3686	0.3708	0.3729	0.3749	0.3770	0.3790	0.3810	0.3830
<b>1.2</b>	0.3849	0.3869	0.3888	0.3907	0.3925	0.3944	0.3962	0.3980	0.3997	0.4015
<b>1.3</b>	0.4032	0.4049	0.4066	0.4082	0.4099	0.4115	0.4131	0.4147	0.4162	0.4177
<b>1.4</b>	0.4192	0.4207	0.4222	0.4236	0.4251	0.4265	0.4279	0.4292	0.4306	0.4319
<b>1.5</b>	0.4332	0.4345	0.4357	0.4370	0.4382	0.4394	0.4406	0.4418	0.4429	0.4441
<b>1.6</b>	0.4452	0.4463	0.4474	0.4484	0.4495	0.4505	0.4515	0.4525	0.4535	0.4545
<b>1.7</b>	0.4554	0.4564	0.4573	0.4582	0.4591	0.4599	0.4608	0.4616	0.4625	0.4633
<b>1.8</b>	0.4641	0.4649	0.4656	0.4664	0.4671	0.4678	0.4686	0.4693	0.4699	0.4706
<b>1.9</b>	0.4713	0.4719	0.4726	0.4732	0.4738	0.4744	0.4750	0.4756	0.4761	0.4767
<b>2.0</b>	0.4772	0.4778	0.4783	0.4788	0.4793	0.4798	0.4803	0.4808	0.4812	0.4817
<b>2.1</b>	0.4821	0.4826	0.4830	0.4834	0.4838	0.4842	0.4846	0.4850	0.4854	0.4857
<b>2.2</b>	0.4861	0.4864	0.4868	0.4871	0.4875	0.4878	0.4881	0.4884	0.4887	0.4890
<b>2.3</b>	0.4893	0.4896	0.4898	0.4901	0.4904	0.4906	0.4909	0.4911	0.4913	0.4916
<b>2.4</b>	0.4918	0.4920	0.4922	0.4925	0.4927	0.4929	0.4931	0.4932	0.4934	0.4936
<b>2.5</b>	0.4938	0.4940	0.4941	0.4943	0.4945	0.4946	0.4948	0.4949	0.4951	0.4952
<b>2.6</b>	0.4953	0.4955	0.4956	0.4957	0.4959	0.4960	0.4961	0.4962	0.4963	0.4964





APPENDIX 27

Percentage Points of the t Distribution

Two Tail Test						
	0,50	0,20	0,10	0,05	0,02	0,01
One Tail Test						
dk	0,25	0,10	0,005	0,025	0,01	0,05
1	1,000	3,078	6,314	12,706	31,821	63,657
2	0,816	1,886	2,920	4,303	6,965	9,925
3	0,765	1,638	2,353	3,182	4,541	5,841
4	0,741	1,533	2,132	2,776	3,747	4,604
5	0,721	1,486	2,015	2,571	3,365	4,032
6	0,718	1,440	1,943	2,447	3,143	3,707
7	0,711	1,415	1,895	2,365	2,998	3,499
8	0,706	1,397	1,860	2,306	2,896	3,355
9	0,703	1,383	1,833	2,262	2,821	3,250
10	0,700	1,372	1,812	2,228	2,764	3,165
11	0,697	1,363	1,796	2,201	2,718	3,106
12	0,695	1,356	1,782	2,178	2,681	3,055
13	0,692	1,350	1,771	2,160	2,650	3,012
14	0,691	1,345	1,761	2,145	2,624	2,977
15	0,690	1,341	1,753	2,132	2,623	2,947
16	0,689	1,337	1,746	2,120	2,583	2,921
17	0,688	1,333	1,743	2,110	2,567	2,898
18	0,688	1,330	1,740	2,101	2,552	2,878
19	0,687	1,328	1,729	2,093	2,539	2,861
20	0,687	1,325	1,725	2,086	2,528	2,845
21	0,686	1,323	1,721	2,080	2,518	2,831
22	0,686	1,321	1,717	2,074	2,508	2,819
23	0,685	1,319	1,714	2,069	2,500	2,807
24	0,685	1,318	1,711	2,064	2,492	2,797
25	0,684	1,316	1,708	2,060	2,485	2,787
26	0,684	1,315	1,706	2,056	2,479	2,779
27	0,684	1,314	1,703	2,052	2,473	2,771
28	0,683	1,313	1,701	2,048	2,467	2,763
29	0,683	1,311	1,699	2,045	2,462	2,756
30	0,683	1,310	1,697	2,042	2,457	2,750
40	0,681	1,303	1,684	<b>2,021</b>	2,423	2,704
60	0,679	1,296	1,671	2,000	2,390	2,660
120	0,677	1,289	1,658	1,980	2,358	2,617
∞	0,674	1,282	1,645	1,960	2,326	2,576

Appendix 28







## CHAPTER I

### INTRODUCTION

#### A. Background of the Problem

Reading is a complex process that includes the physical and mental process. The physic activities occur by stimulation of the eyes. This activity is begun by observing pictures or sounds of the written language. Reading is one of the important skills in English, students can get information and they can increase their knowledge and their experiences through reading. By having a good skill in reading, the students will be easy to get information from many sources from books, magazines, newspapers, and brochures. On the other hand, if the students have a good ability in reading, they will be successful in their study and they understand what the text about

In our religion, Allah SWT asks to human to read. Allah said in holy Al-Quran According to Suroh Al-Alaq 1-5 as follow:

أَقْرَأْ بِأَسْمِ رَبِّكَ الَّذِي خَلَقَ ۝ ١ خَلَقَ الْإِنْسَانَ مِنْ عَلَقٍ ۝ ٢ اقْرَأْ وَرَبُّكَ الْأَكْرَمُ ۝ ٣  
الَّذِي عَلَّمَ بِالْقَلَمِ ۝ ٤ عَلَّمَ الْإِنْسَانَ مَا لَمْ يَعْلَمْ ۝ ٥

The meaning:

*Read! In the name of your Lord who has created (all the exists). He has created man from a clot (a piece of thick coagulated blood). Read! and*

*your Lord is the most Generous. Who has taught (the writing) by the pen. He has taught men that which He knew not.*<sup>1</sup>

According to suroh Al-Alaq 1-5, thus verses have described to people how important reading in people life, until Allah ordered human to read, it is caused from reading, students can comprehend something, and all the things in this world, especially their God, The Merciful and creator of the world and all the things on.

Reading has a lot of significances. First, Reading is an essential skill for learners of English as a foreign language. For most of these learners, it is one of the important skill that must be mastered in order to ensure success in learning English, and also, in learning any contents class where reading in English is required. Second, reading can activate mind, get a lot of knowledge about many things in the world such as sciences, technology, sports, arts, cultures, and religious. Third, reading can enrich the knowledge, interacting with the feelings and thought, obtaining information and improving the science or knowledge and also give pleasure.

So, reading is very important, moreover for students. However, reading still a problem in school, especially at MAN 1 Padangsidempuan. It could be seen based on illustration below.

---

<sup>1</sup> Muhammad Taqi'uddin Al-Hilali, *Translation of the Meaning of the Noble Qur'an in the English Language* (Madinah: King Fahd Complex for the Printing of the Holy Qur'an, 1404 H), p. 842.

First, based on report result, most of the students still got low grade with 74 grades meanwhile the standard of English competency in this school is 78. So, the researcher wanted to solve this problem by examining a reading strategy that is chosen.

Second, based on interview of the researcher with the teacher, it is found that many students were lack of vocabularies and motivation in reading and seldom to practice. They just read a text, and accepted what they have read directly without comparing and connecting what they were reading with their background knowledge.

The last, most of them did not understand the text that they read and did not have the strategies in reading, getting stress and tired in reading comprehension. They did not have the tricks or technique to make them easier. So the students could not comprehend the text well. Finally most of students were failed in understanding the text.

To solve the problem in reading, there are some alternatives reading strategies that available and applicable. As researcher knew, there are many techniques, strategies or methods that can increase the students' ability in reading comprehension, such as, PQ4R (Pre reading, question, Read, Recite, Review), SQ3R (Survey, Question, Read, Recite, Review) and cooperative integrated reading and composition (CIRC).

From the problems that have mentioned above, the researcher choose Cooperative Integrated Reading and Composition (CIRC) strategy. Because the



researcher interested to do the research about this problem, and it would be given the reason about this strategy.

First, CIRC strategy is the strategy that used to assist students in reading and comprehending a foreign language literature. Like usually, students' learning materials are text books which contain a lot of passages. The passage consists of some paragraphs that contains and builds some idea. So, the students need to comprehend the paragraph. Further, CIRC is a strategy to comprehend the text.

Second, many researcher have done research about CIRC strategy, and this strategy has been proven as an efficient reading in reading comprehension. Moreover, it provides a mechanism for increasing understanding and memory.

Based on the explanation above, the researcher interested in doing research with the title "The Effect of Cooperative Integrated Reading and Composition (CIRC) on students' reading comprehension at grade XI MAN 1 Padangsidempuan". The research would explore the difference of reading comprehension by using Cooperative Integrated Reading and Composition (CIRC) in the classroom with the conventional way of teachers in teaching reading skill.

## **B. Identification of the Problem**

Based on the title and backround of the problems, the researcher identified problems of students' reading comprehension. The first, most of students still got low grade with average 74, meanwhile the standard of English competency in this school was 78. Second many students were lack of

vocabularies and motivation in reading and seldom to practice and also lack of attention about the important of reading. They just read a text, and accepted what they have read directly without comparing and connecting what they were reading with their background knowledge. Finally most of the students were failed in understanding the text.

### **C. Limitation of the Problem**

The problems of reading is very large, and the there are many strategies that used in teaching reading, such as NHT (Number Head Together), STAD (Student Team Achievement and Division), and Cooperative integrated Reading and Composition (CIRC). Due to the limitation of the researcher in the aspect of ability, time and finance, this research must be limited.

Based on the identification of the problems above, the research is limited to find out the effect of Cooperative Integrated Reading and Composition (CIRC) strategy on students' reading comprehension of descriptive text to the students' reading comprehension at grade XI of MAN 1 Padangsidimpuan in 2014/2015 academic year.

### **D. Definition of the Operational Variable**

The terms uses in this research are as follows:

1. Effect

Effect is a change produced by an action or a cause, a result or an outcome.”<sup>2</sup> “A result of something or the ability to bring out a result. Change that somebody/ something causes in somebody/ something else.”<sup>3</sup> In conclusion, Effect is a change or a result that is occurred on students’ reading comprehension by using CIRC strategy.

## 2. CIRC

CIRC is a reading comprehension strategy consisted of three principal elements: basal-related activities, direct instructions in reading comprehension, and integrated language arts and writing. All activities follow a regular cycle that involves teacher presentation, team practice, independent practice, peer pre-assessment, additional practice, and testing.<sup>4</sup> CIRC is a way, technique, systematic plan and orderly arrangement in classroom activity.

## 3. Reading

Reading is the action of a person who read.<sup>5</sup> Meanwhile David Nunan says reading is a fluent process of readers combining from a text and their own background knowledge to build meaning.<sup>6</sup> So, reading is an activity the reader to get information from text.

---

<sup>2</sup>A.S Hornby, *Oxford Advanced Learner’s Dictionary* (New York: Oxford University Press, 1995) p. 369.

<sup>3</sup>*Oxford Learner’s Pocket Dictionary* (New York: Oxford University Press, 2003) p. 143.

<sup>4</sup>Robert E. Slavin, *Cooperative Learning, (Theory, Research and Practice. Second Edition)*, (London: Allyn and Bacon, 1995), p. 106.

<sup>5</sup>Murni Djamal Dkk, *Improving Reading Skills in English Dictionary* (Jakarta: Darul Ulum Pres, 2001 ), p. 53.

<sup>6</sup>David Nunan, *Practical English Language Teaching* (New York: McGraw Hill, 2003), p. 68.

#### 4. Reading comprehension

Reading comprehension is a complex processes which take part of useful of good and poor ability.<sup>7</sup> Reading comprehension is the ability to understand information presented in written form. It is the process of getting.<sup>8</sup> So, reading comprehension is the ability to interpret and evaluate what readers read and to understand of written or printed material.

#### **E. Formulation of the Problem**

From the identification and limitation of the problem above, so the formulation of this research was “is there the effect of CIRC (cooperative integrated reading and composition) on students’ reading comprehension at grade XI students of MAN 1 Padangsidimpuan?”

#### **F. Purpose of the Research**

From the formulation above, the purpose of this research to find out the students’ reading achievement by using CIRC Cooperative Integrated Reading and Composition (CIRC) strategy at XI Grade MAN 1 Padangsidimpuan.

#### **G. Significances of the Research**

The significances of this research were:

1. As an input to the teacher in teaching and learning process through CIRC methode at Grade XI MAN 1 Padangsidimpuan. It will give the information to the teacher about their students’ reading comprehension.

---

<sup>7</sup> Karen Tankersley, *The Threads of Reading; Strategies for Literacy Development* (USA: ASCD. 2003), p. 42.

<sup>8</sup>Gordon Wainwright, *Speed Reading Better Recalling* (Jakarta: Gramedia, 2007), p. 42.

2. For the Headmaster as one domain measurement of teaching progress
3. For The English teacher, to improve their quality in reading comprehension.
4. This research is hoped to help the other researcher who will conduct further research in the same topic

#### **H. Outline the Thesis**

The systematic of this research is divided in to five chapters. Each chapter consists of many sub chapters with detail as follow:

Chapter one discuss about introduction, consist of background of the problem, identification of the problem, limitation of the research, formulation of the problems, purpose of the research, significant of the research, definition of the operational variables.

Chapter two is the theoretical description, which explain about CIRC (cooperative integrated reading and composition) strategy, reading comprehension, related findings, conceptual framework and hypothesis.

Chapter three discuss about the methodology of research consists of: place and schedule of the research, research design, population and sample, the instrument of collecting data, technique of collecting data and technique of analyzing data.

Chapter four is the result of the research and data analyzing consists of description of data, discussion of the research and limitation of the research.

Chapter five is the conclusion and suggestion.

## CHAPTER II

### THEORETICAL DESCRIPTION

#### A. Theoretical Description

##### 1. Cooperative Integrated Reading and Composition (CIRC) Strategy

###### a. Definition of Cooperative Integrated Reading and Composition (CIRC) Strategy

CIRC is one of the strategy that are develop from Cooperative Learning. In cooperative learning, students will seat together in a group to master the lesson from the teacher. The important thing is students help each other to be successful.

CIRC strategy is a reading comprehension strategy consisted of three principal elements: basal-related activities, direct instructions in reading comprehension, and integrated language arts and writing. In all of these activities, students work in heterogeneous teams. All activities follow a regular cycle that involves teacher presentation, team practice, independent practice, peer pre-assessment, additional practice, and testing.<sup>1</sup> So CIRC is a way, technique, systematic plan and orderly arrangement in classroom activities with students and their friends make a cooperation to do the assignment.

---

<sup>1</sup>Robert E. Slavin. *Cooperative Learning, (Theory, Research and Practice. Second Edition)*, (London: Allyn and Bacon, 1995), p. 106.

## **b. The Major Composition of CIRC Strategy**

The major composition of CIRC strategy are as follows:<sup>2</sup>

### **1) Reading Groups**

Students are assigned to two or three reading groups according to their level, as determined by their teachers. Otherwise, instructions are given to the whole class.

### **2) Teams**

Students are assigned to pairs (or triads) within their reading groups, and then the pairs are assigned to teams composed of partnerships from two reading groups or levels. For example, a team might be composed of two students from the high reading group and two from the low group. Team members receive points based on their individual performance on all quizzes, compositions, and book reports, and these points form a team score.

### **3) Story-Related Activities**

Students are either novels or basal readers. Stories are introduced and discussed in teacher-led reading groups. In these groups, teachers set a purpose for reading, introduce new vocabulary, review old vocabulary, discuss the story after students have read it, and so on. Story discussions are structured to emphasize such skills as making and supporting predictions and identifying the problem in a narrative.

---

<sup>2</sup> *Ibid.*, p. 106-108

After the stories are introduced, students are given a story packet, which contains a series of activities for them to do in their teams when are not working with the teacher in reading group.

#### **4) Partner Checking**

As students complete each of these activities, their partners initial a student-assignment from indicating that they have completed and/or achieved criterion on that task. Students are given daily expectations as to the number of activities to be completed, but they can go at their own rate and complete the activities earlier if they wish, creating additional time for independent reading.

#### **5) Test**

At the end, students are given a comprehension test on the story, asked to write meaningful sentences for each vocabulary word, and asked to read the word list aloud to the teacher. Students are not permitted to help one another on these tests. The test scores and evaluations of the story-related writing are major components of the students' weekly team score.

#### **6) Direct Instruction in Reading Comprehension**

Students receive direct instruction in specific reading comprehension skills. Such as identifying main ideas, understanding causal relations, and making inferences.



Based on the statement above, teacher can use the method to attract students' attention by giving them the simulation that must to be responded by cooperative learning. In short, cooperative learning is the simulation for the students.

### c. The Steps of CIRC Strategy

Agus Suprijono describes the steps of CIRC strategy, the steps are:<sup>3</sup>

- 1) Researcher makes groups which consists of 4-5 students
- 2) Reasearcher gives an issue/reading text of descriptive text
- 3) The students cooperative in reading a text each other and find the main idea. The other students gives commands to the issue and it write in a pieces of paper.
- 4) The researcher asks students to read result of their work
- 5) The researcher makes a conclusion

## 2. Conventional Strategy

Conventional strategy is the strategy or the way that usually used by the teachers to teach the text to students.<sup>4</sup> According to Hudson that conventional strategy is the strategy used by the teachers based on mutual agreement in a school.<sup>5</sup>

---

<sup>3</sup>Agus Suprijono, *Cooperative Learning Teori dan Aplikasi PAIKEM*. (Yogyakarta: Pustaka Pelajar, 2009), p. 130-131.

<sup>4</sup>Jhon Deriden. *Conventional Strategy* (<http://www.britannia.com/EBchecked/topic/421797/nuclear-strategy/52993/conventional-strategy>), retrieved on August 24, 2014 at 08.00 p.m.

<sup>5</sup>Hudson. "The meaning of Conventional Strategy" (<http://www.conventional-strategy/topic/54372-strategy>), retrieved on August 24, 2014 on 08.00 p.m.)

Based on the explanation above, the researcher concludes that the procedure used by the English teachers at MAN 1 Padangsidimpuan, are as follows:

- a. Explain the subject matter
- b. Identify the difficult words
- c. Ordering the student translate at home
- d. Answering the questions

### **3. Reading Comprehension**

#### **a. Definition of Reading**

Actually, reading is receptive skill; it is one of reaction between reader and writer. There are many definition of reading that has been explained by the experts. According to Kathelen “reading, at first, may appear to be routine activity in which individual words are combined to produce meaning”.<sup>6</sup> It means that the reader can make the comprehension about the text, not only comprehend about the structure and grammar, vocabulary, but the reader also can establish a paragraph with finding a topic, main idea, supporting sentences and the others.

According to Tarigan, reading is a process of reader in bringing some meanings and getting meanings from printed and written material.<sup>7</sup>

---

<sup>6</sup> Kathelen T. McWhorter, *Efficient and Flexible Reading* (USA: Harper Collins Publisher, 1992), p. 23.

<sup>7</sup> Henry Guntur Tarigan, *Membaca sebagai Suatu Keterampilan Berbahasa* (Bandung: Angkasa, 2005), p. 8.

Its mean reading is certainly to get information from printed material, not only using mental or mind to think what text talks about, but in this case the readers also need physic to read; for example the readers use their eyes when they read.

Furthermore, Nunan also indicates “reading is fluent process of readers combining information from a text and their own background knowledge to built meaning”.<sup>8</sup> Moreover, “reading is assumed to be a combination of decoding and oral language”.<sup>9</sup> Therefore, the students who have spent their time to read in the class are very important because students benefit from the time to apply reading skill to get a new knowledge. Based on explanation above, it can be concluded that reading is communication between reader and writer through mental process to construct the meaning or information from text by using background knowledge.

#### **b. Definition of Reading Comprehension**

According to the view of these educators, comprehension cannot be divided into distinct skills. Goodman defines reading comprehension as interaction between thought and language. And bases evaluation of success in comprehension on the extent to which the readers reconstructed

---

<sup>8</sup> David Nunan, *Practical English Language Teaching* (New York: MC. Graw Hill, 2003), p. 68.

<sup>9</sup> J. Michael O. Malley and Lorraine Valdez Pierce, *Authentic Assessment for English Language Learners* (America: Addison-Wesley Publishing Company, 1996), p. 94.

message . Thorndike equates reading comprehension with verbal reasoning. Efforts to increase comprehension should concentrate on improving thinking abilities and should not attempt to deal with hypothesized separate sub skills that research has failed to validate.

Reading comprehension is dependent on three factors. The first factor is that the reader has command of the linguistic structures of the text. The second factor is that the reader is able to exercise meta cognitive control over the content being read. This means that the reader is able to monitor and reflect on his or her own level of understanding while reading the material. The third and most important criterion influencing comprehension is that the reader has adequate background in the content and vocabulary being presented.<sup>10</sup>

Reading comprehension is the ability to interpret and evaluate what readers read and to understand of written or printed material. In addition, Reading comprehension is the ability to understand information presented in written form. Reading comprehension is mental process in which the readers try to understand the meaning in the text by interpreting what have been read in order to find the new idea that given by the writers. And also,

---

<sup>10</sup> Karen Tankersley. *The Threads of Reading; Strategies for Literacy Development* (USA: ASCD. 2003), p. 90.

“reading comprehension are complex process which take part of useful of good and poor ability”.<sup>11</sup>

### **c. The Reading Goals**

The main goals of reading are to get and find information include content and meaning of the text based on the purpose.<sup>12</sup> Here some goals of reading such as:

- 1) Reading is for identifying important information.
- 2) Reading is for main ideas.
- 3) Reading is for finding the specific information.
- 4) Reading is for underlining the important information.
- 5) Reading is to classify the difficult word.
- 6) Reading is to evaluate.
- 7) Reading is to compare or contrast.

### **d. The principles behind of the reading**

There are some principles in reading:<sup>13</sup>

- 1) Reading is not a passive skill
- 2) Students need to be engaged with what they are reading
- 3) Students should be encourage to respond to the content of a reading text, not just to the language

---

<sup>11</sup>*Ibid.*,p. 42.

<sup>12</sup> Henry Guntur Tarigan, *Op. Cit.*, p. 9.

<sup>13</sup>Jeremy Harmer. *How to Teach English an Introduction to The Practice of English Language Teaching.*(Malaysia: Longman. 1998), p.70-71.

- 4) Prediction is major factory in reading
- 5) Mach the task to the topic
- 6) Good teachers exploit reading text to the full

**e. Aspects of Reading**

Reading aspect is the reading skills that based on the purpose and the reader needed. There are two aspects in reading, they are:

- 1) Mechanical skill is the lower order. It is included: Knowing the letter  
Mechanical skills in the lower order and its include: letters recognition, linguistics recognition (words, phrase, sentences, phoneme, and clause roles), pronunciations recognition, and the speed reading.
- 2) Comprehension skill in the higher order, this aspect includes comprehending in the simple definition, understanding significance or meaning evaluation of speed flexible reading.<sup>14</sup>

**f. Strategies for Reading Comprehension**

Reading comprehension strategies are tools that proficient readers use to solve the comprehension problems they encounter in texts. There are several strategies for reading comprehension that must be known by the reader. According to H. Douglas Brown, there are some principal strategies for reading comprehension:<sup>15</sup>

---

<sup>14</sup> Henry Guntur Tarigan, *Op. Cit.*, p. 7-8

<sup>15</sup> H. Douglas Brown. *Teaching by Principles an Interactive Approach to Language Pedagogy the Second Edition* (California: Longman, 2000), p. 306 -310.

- 1) Identify your purpose in reading a text.
- 2) Use graphemic rules and pattern in bottom-up decoding
- 3) Use efficient silent reading techniques for relatively rapid comprehension.
- 4) Skim the text for main ideas
- 5) Scan the text for specific information
- 6) Use semantic mapping or clustering
- 7) Guess when you aren't certain
- 8) Analyze vocabulary
- 9) Distinguish between literal and implied meanings.
- 10) Capitalize on discourse markers to process relationships.

**g. Reading Assessments**

Assessments require planning and organization. The key lies in identifying the purpose of reading assessment and matching instructional activities to that purpose.<sup>16</sup>

Assessment is a tool to measure how far the students ability and comprehension of the material. In assessing reading comprehension, there are some indicators:

NO	Indicators of Reading Comprehension
1.	Identifying Topic Sentence
2.	Identifying Main Idea
3.	Identifying Specific Information

---

<sup>16</sup>J. Michael O, Malley and Lorraine Valdez Pierce. *Op.Cit.* p. 98.

4.	Identifying Vocabulary
5.	Identifying Conclusion

There are some techniques in assessing or testing, one of them is multiple choice questions. A multiple choice test item is usually set out in such a way that the candidate is required to select the answer from a number of given options. Only one of which is correct, the marking process is totally objective because the marker is not permitted to exercise judgment when marking the candidate's answer, agreement has already been reached as to the correct answer to each item.<sup>17</sup>

Advantage and Disadvantage of multiple choice test.

The advantage of multiple choice:

- 1) The marking, as being reliable is simple, more rapid and often more cost effective than other forms of written. The format of the multiple choice test item is such that the intention of the test compiler are clear than candidates know what is required of them.
- 2) In multiple-choice tests there is almost complete marker reliability. Candidates' marks, unlike those in subjective formats, can not be effected by the personal judge of the marker.
- 3) In more open-ended formats, example short answer questions, the candidate has to deploy the skill of writing.
- 4) Because items can be pre-tested fairly easily, it is usually possible to estimate in advance the difficulty level of each item and that of the test as a whole.

Disadvantage of multiple choice:

- 1) The scores gained in multiple choice tests, as in true-false test, may be suspect because the candidate has guessed all or some of the answers.
- 2) There are however a number of problems associated with used of this format.

---

<sup>17</sup>Cyrill J.Weir, *Communicative Language Testing* (New York: Prentice Hall, 1990), p. 43.



- 3) A further objection to the use of multiple choice format is the danger of the format having an undue effect on measurement of the trait.
- 4) Multiple choice tests take much longer and are more expensive and difficult to prepare than essay test.

#### 4. Descriptive Text

##### a. Definition of Descriptive Text

According, Sanggam Siahaan, descriptive is a written English text in which the writer describes an object. In this text, the object can be a concrete or abstract object. It can be a person, or an animal, or a tree, or a house, or camping. It can be about any topic.

This is Contains two components; identification and description. Writing that presents ideas by providing details about characteristic of people, place and things and the object can be a concrete or abstract.<sup>18</sup> Definitely a descriptive text consists of a group of sentences and composed of a group sentence expressing one central idea.

Moreover, stated by Charles Miguel Cobb,<sup>19</sup> said that descriptive is kind of writing that tries to put a picture in the reader's mind. It tells how something looks or sounds or tastes or smells or feels.

Another, According to Sri Dewi Astuti descriptive text is that describes the characteristics of a particular thing, a place, or a person.<sup>20</sup> A

---

<sup>18</sup>Sanggam Siahaan and kisno shinoda, *Generic Text structure*, (Yogyakarta: Graha Ilmu, 2008), p. 89.

<sup>19</sup>Charles Miguel Cobb, *Process and Pattern*, (Belmont California: Wadsworth Publishing Co, 1985), p. 35.

<sup>20</sup>Sri Dewi Astuti, *Comparing and Contrasting Descriptive and Report Text*, (Bekasi: AldhiAksaraAbadi Indonesia), p. 1.

descriptive text usually started by a clear topic sentence which identifies a thing place, or a person. It is about whom, what and where.

So, the researcher concludes that descriptive text is a kind of text in genre that gives description about things, living thing or non- living thing. Descriptive text describes much information about an object, where the information is about the parts, qualities, or characteristics of the object that is described.

#### **b. The Generic Structures of Descriptive Text**

Descriptive is text containing two components identification and description by which a writer describes a person, or an animal. The identification is to identify the object to describe. The description describes parts, qualities, and characteristics: of the parts of the object the function of description is to describe a particular person, place, or thing.<sup>21</sup> Then, text can be divided into descriptive text, procedure text, narrative text, recount text, and report text. However descriptive text means to describe/ describes things, people, place specifically.

Lowes and Clark also explained that text structure of descriptive text consist of:<sup>22</sup>

1. Identification is writing the name or something, place, pictured, city, and family with brief description.
2. Description is described parts, qualities and characteristics of thing.

The following paragraph is example of descriptive text

---

<sup>21</sup>Sanggam Siahaan, *Op. Cit.*, p. 89.

<sup>22</sup> Lewis and Clark, "*Descriptive Text*" (<http://www.campusschool.edullofti/Primary>. retrieved on August 28, 2014 at 10 am).

Macquarie University is one of the largest universities in Australia. This year, in 2004, it celebrates its 40th anniversary.

The university is located at the North Ryde Greenbelt, Sydney, where the New South Wales government sets aside 135 hectares for the institution. In 1964, Macquarie area was a rural retreat on the city fringe, but today the campus and its surroundings have evolved beyond recognition. The North Ryde District has grown into a district of intensive occupation anchored by a vibrant and growing university.

Blessed with a fortunate location and room to breathe, Macquarie can be proud of that careful planning that retains and enrich the university's most attractive natural features. A pleasing balance between buildings and plating is evident across the campus. This emphasis on the importance of landscape has created images of Macquarie as a place that members of the university are most likely to pleasurably recollect.

One of the highlights of the landscape is the Mars Creek zone. It comprises landscaped creek sides and valley floor, a grass amphitheatre, and artificial lake surrounded by rocks and pebbles, native plants and eucalypts.

Today, a railway station is under construction. In three years 1 time, Macquarie will be the only university in Australia with a railway station on site. Macquarie is poised to be the most readily accessible in Sydney region by rail and motorway, yet retaining its beautiful site.

Based on example above, the structure descriptive texts are explained more in the table below:

Table I

Example of descriptive text

Title	Macquarie University
-------	----------------------

Identification	Macquarie University is one of the largest universities in Australia. This year, in 2004, it celebrates its 40th anniversary.
Description	The university is located at the North Ryde Greenbelt, Sydney, where the New South Wales government sets aside 135 hectares for the institution. In 1964, Macquarie area was a rural retreat on the city fringe, but today the campus and its surroundings have evolved beyond recognition. The North Ryde District has grown into a district of intensive occupation anchored by a vibrant and growing university.

**c. The Language Features of Descriptive Text.**

Descriptive are a text containing two components; identification and description by which a writer describes a person or an animal or a tree, or a house, or camping at this topic. Here is the further explanation; the identification is to identify the object to describe, and the description describes parts, qualities and characteristics of the parts of the object.<sup>23</sup>

Sanggam Siahaan and Kisno Shinoda describes the language features or dominant grammatical aspect of descriptive text are focuses on specific participants,

---

<sup>23</sup>Sanggam Siahaan and KisnoShinoda, *Op. Cit.*, p. 89.

uses of attributive and identifies processes, frequent use of epithets and classifiers in nominal groups, and uses of simple present tense.<sup>24</sup> So, the significant language feature in descriptive text is that description text uses simple present tense.

## **B. Review Related Finding**

There are some related findings related to this research. The first is Laila Febriani “The Effect of Skimming Strategy on Students’ Achievement in Reading Comprehension at Grade XI SMKS Panca Dharma Padangsidimpuan”. The concluding of her research, there is the effect of skimming strategy on the students’ achievement in reading comprehension, where the mean score is 76.84 and control class is 72.12 with  $t_0$  is higher than  $t_t$  ( 1.88 >1.66). So, the implication of using skimming strategy is better achievement in teaching reading comprehension than conventional strategy.<sup>25</sup>

The second is Paujiah “the effect of reciprocal teaching strategy to students’ reading comprehension at grade VII SMP Negeri 5 Padangsidimpuan”. The concluding of her research, there is the effect of reciprocal teaching strategy to reading comprehension, where the mean score is 74.96 and control class is 73.65, with  $t_0$  is higher than  $t_t$  ( 2. 18 >1.67). So, the implication of reciprocal strategy is better than conventional strategy.<sup>26</sup>

---

<sup>24</sup>Sanggam Siahaan and Kisno Shinoda, *Loc. Cit.*

<sup>25</sup>Laila Febriani “The Effect of Skimming Strategy on Students’ Achievement in Reading Comprehension at Grade XI SMKS Panca Dharma Padangsidimpuan. (Padangsidimpuan: 2013), p. 54.

<sup>26</sup>Paujiah “The Effect of Reciprocal Teaching on students’ reading comprehension at grade VII SMP Negeri 5 Padangsidimpuan” (Padangsidimpuan, 2013), p. 59.

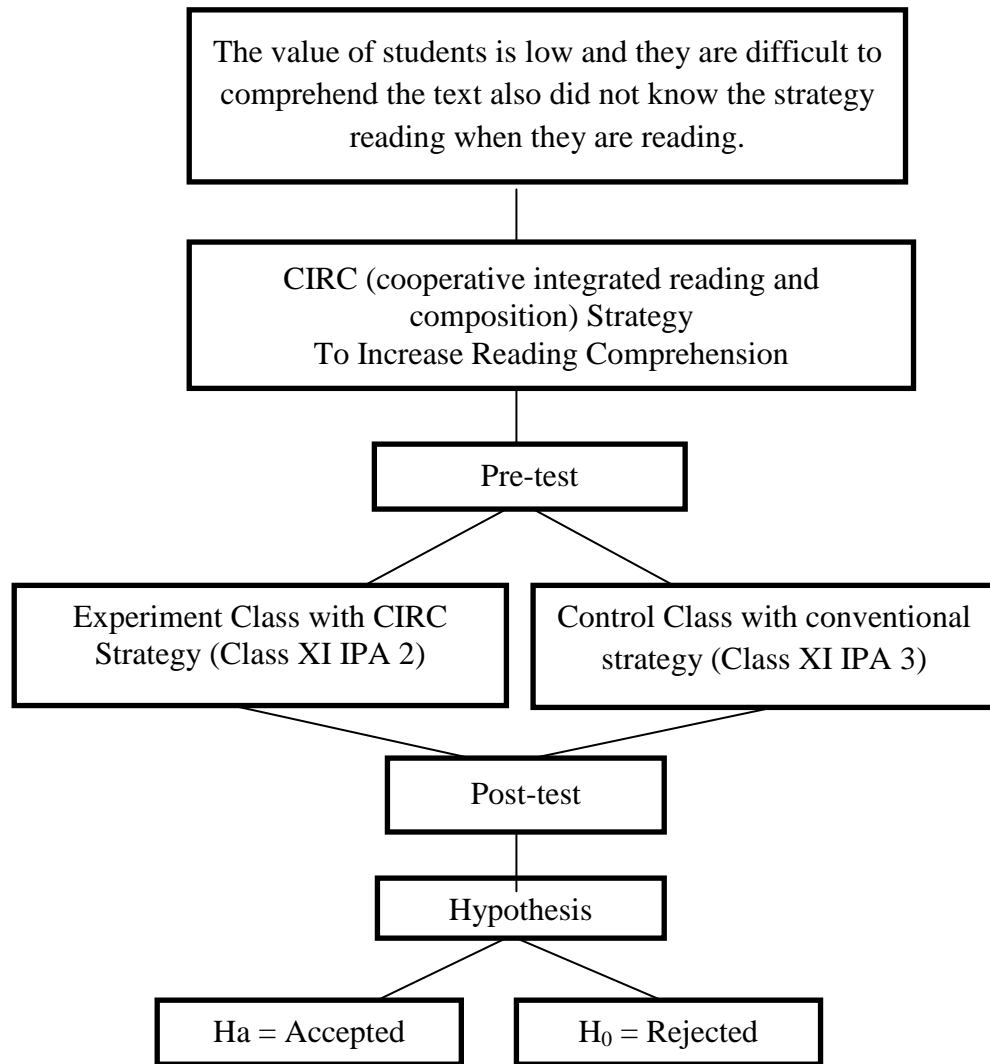
The last, Zahro Maito Pohan “The Effect of Predicting Information From the Pictures on reading Comprehension at Grade VIII Junior High School Negeri 8 Padangsidempuan. She concluded that there is the effect of Predicting Information from the pictures on reading Comprehension where the mean score is 73.93 and the control class 71.84 with  $t_0$  is higher than  $t_t$  ( $1.86 > 1.67$ ). So, the implication of Predicting Information from the picture on students’ reading comprehension is better than conventional strategy.

In summary, from the description above, the researcher concludes that strategy or methods can increase the students’ reading comprehension. So, the researcher hopes that CIRC (cooperative integrated reading and composition) strategy can increase the student’s reading comprehension and this research will complete and contribute a previous findings. Moreover, the researcher wants to research about “The Effect of CIRC (cooperative integrated reading and composition) Strategy on Student’s Reading Comprehension at XI Grade MAN 1 Padangsidempuan.

### **C. Conceptual Frame Work**

The successful of reading comprehension depend on many factors. One of them is how the teacher teaches reading to the students. The suitable strategy is very important to teach reading. Reading comprehension is to make the material owns. So, the students’ must have the reading strategies. Reading strategy is the strategy that used while the students read the material. So, they can more easily to understand and comprehend the material. CIRC (cooperative integrated reading

and composition) method is one of the reading strategy has the effect in reading comprehension. The relation of CIRC (cooperative integrated reading and composition) strategy on reading comprehension can be seen as the diagram follow:



#### **D. Hypotesis**

Hypothesis is a provisional result of the research.<sup>27</sup> While according to L.R. Gay says, “A hypothesis is a tentative prediction result of the research findings.”<sup>28</sup> The purpose of hypothesis of hypothesis is to answer a certain specific question. Based on formulation of the problem above, the hypothesis of the research was “There is the effect of CIRC (Cooperative Integrated Reading and Composition) strategy on students’ reading comprehension at grade XI MAN 1 Padangsidempuan”.

---

<sup>27</sup>Suharsimi Arikunto. *Prosedur Penelitian Suatu Pendekatan Praktik* (Jakarta: RinekaCipta, 2006), p. 71.

<sup>28</sup>L. R Gay and Peter Airaisan. *Educational Research for Analysis and Application*, (America: Prentice Hall, 1992), p. 71.



## CHAPTER III

### RESEARCH METHODOLOGY

#### A. Place and Schedule of the Research

This research was taken at MAN 1 Padangsidempuan. It is located at Sutan Sori Pada Mulia Street, Padangsidempuan of North Sumatera. This subject of research was at the second grade of students at MAN 1 Padangsidempuan 2015 academic year. The process of this research was held from August 2014 up to January 2015.

#### B. Research Design

The kind of this research was quantitative research with experimental method. L. R Gay said, “Experimental research is the only type of research that can test hypothesis to establish cause and effect.”<sup>1</sup> And then, Creswell said, “Experimental research included the experiment with the random assignment of subject to treatment condition as well as quasi experiment that use none randomized.”<sup>2</sup>

From the definition above, researcher concluded that the experiment is a kind of research that had aim to know the causal effect relationship between one or more variable to other variables.

---

<sup>1</sup> L.R Gay and Peter Airasian. *Educational Research for Analysis and Application* (America: Prantice Hall, 1992), p. 367.

<sup>2</sup>Jhon Creswell. *Research Design Qualitative, Quantitative and Mixed Methods Approaches Second Edition* (USA: Prentice hall., 2000), p.14.

In this research, the researcher used two classes, as an experiment class and as a control class. The experiment class was the class that taught with CIRC strategy, as a treatment. Meanwhile the control class was the class that taught with using conventional strategy or without treatment. It could be seen as follows:

**Table II**

Table of design instrument

Class		Treatment	
Experiment class	Pre Test	Teaching descriptive text by using CIRC (cooperative integrated reading and composition) strategy	Post Test
Control class	Pre Test	Teaching descriptive text by using conventional strategy	Post Test

## C. Population and Sample

### 1. Population

According to Gay, 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.<sup>3</sup>

---

<sup>3</sup> L. R. Gay and Peter Airasian. *Op. Cit.*, p. 122.

Meanwhile, Suharsimi Arikunto said, “A population is a set (collection) of all elements processing one or more attributes of interest.”<sup>4</sup> So, the population is the whole of the students at grade XI MAN 1 Padangsidempuan.

From the topic of this discussion, it has been clear that the population of this research was all of the students at XI grade of MAN 1 Padangsidempuan in 2014-2015 academic year. They were consists of 6 classes with 202 students.

**Table III**

The population of the grade XI students of MAN 1 Padangsidempuan:

NO	Class	Total Student
1.	XI IPA -1	30
2.	XI IPA -2	28
3.	XI IPA 3	37
4.	XI IPA 4	35
5.	XI IPS 1	35
6.	XI IPS 2	37
Total of Student		202

## 2. Sample

According to Gay and Airasian, “Sample comprises the individuals, items, or events selected from a larger group referred to as a population.”

Then, Muhammad Ali stated that sample is partial taken from the whole

---

<sup>4</sup>Suharsimi Arikunto. *Prosedure Penelitian Suatu Pendekatan Praktik* (Jakarta: Rineka Cipta, 2006), p. 108.

subject and representative of the population. So, sample is the part of population that is chosen as respondent of the research.

Experimental research divided into two classes as a sample. They are experimental class and control class. The sample was taken randomly. So, the researcher took two classes as sample, they were XI IPA 1 which consists of 30 students and XI IPA 2 which consists of 28 students. So, total of the sample was 58 students. So that, one class was experimental class and the other was control class. To determine an appropriate sample of population, it was tested with Normality and Homogeneity test, they were:<sup>5</sup>

a) Normality test

The function of normality test is to know whether the data of research is normal or not. In this research. The researcher used normality test with using *Chi-Quadrate* formula, as follow:<sup>6</sup>

$$x^2 = \sum \left( \frac{f_o - f_h}{f_h} \right)$$

Where:

$x^2$  = Chi-Quadrate

$f_o$  = Frequency is gotten from the sample/result of observation (questioner).

<sup>5</sup>Mardalis, *Metode Penelitian: Suatu Pendekatan Proposal* (Jakarta: Bumi Aksara, 2003), p.

<sup>6</sup>Anas Sudijono, *Pengantar Statistik Pendidikan* (Jakarta: PT. Raja Grafindo Persada. 2005), p. 298.

$f_h$  = Frequency is gotten from the sample as image from frequency is hoped from the population

To calculate the result of Chi-Quadrate, it was used significant level 5% (0,05) and degree of freedom as big as total of frequency was lessened 3 ( $dk= k-3$ ). If result  $x^2_{count} < x^2_{table}$ . So, it could be concluded that data was distributed normal. Based on the calculation of normality test in pre- test, the researcher found that there were two classes that is classified normal with  $dk=5-3=2 = 5.991$ . They were XI IPA-1 ( $3.33 < 5.991$ ), XI IPA-2 ( $1.32 < 5.991$ ), and there was a class that was not normal with  $dk= 6-3= 3 = 7.815$ , (XI IPA-3 =  $9.45 > 7.815$ ), the calculation in appendix 18.

b) Homogeneity test

Homogeneity test is uses to know whether control class and experimental class have the same variant or not. If both of classes are same, it is can be called homogeneous. Homogeneity is the similarity of variance of the group will be compared. So, the function of homogeneity test is to find out whether the data homogeny or not. It use Harley test, as follow:<sup>7</sup>

$$F = \frac{\text{The biggest variant}}{\text{The smallest variant}}$$

---

<sup>7</sup> Agus Irianto. *Statistik Konsep Dasar dan Aplikasinya*. (Padang: P2LPTK Departemen Pendidikan Nasional. 2003), p. 276.

Hypotheses is accepted if  $F_{(count)} \leq F_{(table)}$

Hypotheses is rejected if  $F_{(count)} \geq F_{(table)}$

Hypothesis is rejected if  $F \leq F_{\frac{1}{2}} \alpha(n_1-1) (1= n_2-1)$ , while if  $F_{count} > F_{table}$

hypothesis is accepted. It was determined with significant level 5% (0, 05) and dk numerator was  $(n_1-1)$ , while dk detominators is  $(n_2-1)$ . So, dk =  $(28-1=27)$  and  $(30-1 =29)= 2.052$  and  $2.045$ . Based on the calculation of homogeneity test in pre-test, the researcher found that all of the classes were classified homogenous (see appendix 19).

Based on explanation above, the population is the six classes of the second year students, two classes were selected randomly in order to be an experimental or control class. After comparing the normality and homogeneity test of the third classes in pre-test, the researcher found that all classes were homogenous and the normal classes were XI IPA-1, XI IPA-2, and XI IPA-3 was not normal. So, the researcher took XI IPA-1 and XI IPA-2 as the sample of this research. The researcher chose these classes because they had similar competence based on their result in pre-test. In this research, the experimental class was XI IPA-2 that consist of 28 students and control class was XI IPA- 1 that consist of 30 students. Therefore, total of sample were 58 students.

**Table IV:**  
Sample of the Research

Experimental Class	Control Class	Total
XI IPA 2 = 28	XI IPA 1 = 30	58

#### D. Instrument of Collecting Data

A good instrument certify the validity of the data. The researcher used instrument of validity and reliability for the taking the valid data. The researcher used test as instrumentation. Test is some of question or view or other tool used for measure skill, knowledge, intelligence and ability.

The researcher collected by giving the multiple-choice test. Cryil said, “A multiple-choice questions (MCQs) is the test item usually set out in such a way that the candidate is required to select the answer from a number of given options, only one of which is correct.”<sup>8</sup>

In this research, the test consisted of 40 questions, in which 20 for pre-test, and 20 for post-test by choosing an answer from the 4 options to prepare the students’ reading comprehension. This test gave to both group, experiment and control class. To find out the scores of the students’ answer, the researcher gave 5 score for each item. Thus, the maximum score of test was 100.

**Table V**  
There are the indicators of reading comprehension Pre-Test:

NO	Indicators	Items	Number of items	Score	Total Score
1	Able to find the topic of the text	4	1,8,12,20	5	20
2	Able to identify main idea	4	2,4,13,18	5	20
3	Able to identify specific information from the text.	4	3,5,10,16	5	20

---

<sup>8</sup>Cyril J. Weir, “*Communicative Language Testing*” (Printice Hall: 1990), p. 43

4	Able to identify the vocabulary	4	7,11,15,19	5	20
5	Able to identify the conclusion	4	6,9,14,17	5	20
TOTAL		20			100

**Table VI**

The Indicator Reading Comprehension Text of Post – Test

NO	Indicators	Items	Number of items	Score	Total Score
1	Able to find the topic of the text	4	4,7,12,16	5	20
2	Able to identify main idea	4	3,8,11,19	5	20
3	Able to identify specific information from the text.	4	1,9,14,17	5	20
4	Able to identify the vocabulary	4	5,10,15,18	5	20
5	Able to identify the conclusion	4	2,6,13,20	5	20
TOTAL		20			100

## E. Validity and Reliability Instrument

### 1. Validity

Anas Sudijono stated that Validity is a characteristic of the good test.

To get the validity of an achievement test can be used two ways:<sup>9</sup>

- a. Totality of the test validity
- b. Item validity

---

<sup>9</sup>Anas Sudijono. *Pengantar Evaluasi Pendidikan* (Jakarta: PT Raja GrafindoPersada, 1996), p. 163.



In this research, the researcher used item validity to get the validity of instrumentation. Item validity is a part of the test as a totality to measure the test by items. Then, the test consist of 50 multiple-choice tests that divided in to two groups. They were 25 for pre-test and 25 for post-test.

To know the validity of the each question will be refer to list  $r$  biserial with  $r$ , in 5% significant: 0, 349 and 1% significant: 0, 449. So, if  $r_{account} > r_{table}$  the test is classified valid.

So, to get the validity of the test, the formula of  $r_{pointbiserial}$  can be used as follow:

$$r_{pbi} = \frac{M_p - M_t}{SD_t} \sqrt{\frac{p}{q}}$$

Where:

$r_{pbi}$  : coefficient item validity

$M_p$  : mean score of the total sore

$SD_t$  : Standard Deviation of the total score

$p$  : presentation of the right answer of the item tested validity.

$q$  : presentation of the wrong answer of the item tested validity.

From the result of the analysis for 50 instrument test, in which 25 for pre-test and 25 for post-test. researcher concluded that for pre-test only 20 were categorized valid and 5 were categorized invalid (see appendix 7).

Then, for the post-test also consist of 20 questions were categorized valid, and 5 were categorized invalid (see appendix 10). The calculation of how to get it could be seen in the appendix 8 and appendix 11. So, researcher conducted 20 items for control class and 20 items for experiment class.

## 2. Reliability of The Test

An instrument of the research must be reliable. A reliable test is consistent and dependable.<sup>10</sup> To get the reliability of the test, Suharsimi Arikunto said that to obtain the reliability of the test, the researcher used formula K-R 20.<sup>11</sup>

The formula:

$$R_{11} = \left( \frac{n}{n-1} \right) \left( \frac{S_t^2 - \sum pq}{S_t^2} \right)$$

Where:

$R_{11}$  : Reliability of the Instrument

N : Total of Question

$S_t^2$  : Variants Total

P : Proporsi Subject who is right Answer(1)  
N

Q : Proporsi Subject who is Wrong Answer (0)  
N

---

<sup>10</sup>H. Douglas Brown. *Language Assessment Practical and language Practice*, (San Francisco: Longman, 2003), p. 21.

<sup>11</sup>Suharsimi Arikunto, *Op. Cit.*, p. 188.

Reliability is a good character of the test that refers to the consistency of the measurement. The test is reliable if  $r_{\text{count}} > r_{\text{table}}$  by using formulation KR-20 with  $r_{\text{table}}$  0.70. (see appendix 14).

## **F. Technique of Data Collecting**

To determine the result of the research, the researcher used test to students. The test divided into two kinds; pre-test and post-test. This test concludes some steps; they are:

### **1. Pre test**

The pre-test is conducted to find out the homogeneity of the sample. The function of the pre-test is to find the mean scores of the CIRC strategy group and conventional group before the researcher give treatment to the experimental group. In this case, the researcher used some steps. They were:

- a. The researcher prepared the test 20 items.
- b. The researcher distributed the paper of the test to students of experimental class and control class.
- c. The researcher explained what students to do.
- d. Giving time.
- e. The students answered the question.
- f. Collecting their paper test to researcher.

- g. The researcher checked the answer of students and found the mean score of control and experimental class.

## 2. Post-test

After giving treatment, the researcher conducts a post-test which the different test with the pre-test, and has not been conducted in the previous of the research. This post-test is the final test in the research, especially measuring the treatment, whether is an effect or not. After conducting the post-test, the researcher analyzed the data, and then, the researcher finds out the effect of using CIRC strategy in the experimental class. The researcher had some procedure. There are:

- a. The researcher prepares the test 20 item
- b. The researcher distributes the paper of the test to students of experimental class and control class.
- c. The researcher explains what students do.
- d. Giving time.
- e. The students answer the question.
- f. Collecting their paper test to researcher.
- g. The researcher checks the answer of students and finds the mean score of control and experimental class.

## G. Technique of Data Analysis

In this research, the researcher uses the technique of data analysis as follows:

### 1. Requirement Test

- a. Normality test by using *Chi – Quadrat* formula, as follow:

$$x^2 = \sum \left( \frac{f_o - f_h}{f_h} \right)$$

Where:

$x^2$  =Chi-Quadrate

$f_o$  =Frequency is gotten from the sample/result of observation (questioner).

$f_h$  = Frequency is gotten from the sample as image from frequency is hoped from the population.

To calculate the result Chi Quadrat, it was used in significant level 5% (0.05) = 5.991 and degree of freedom as big as total of frequency is lessened 3 (dk=k-3.)

- b. Homogeneity test

To test the data whether homogeny or not, the researcher used Harley rest, as follow:<sup>12</sup>

---

<sup>12</sup> Agus Irianto, *Op.Cit.*, p. 276.

$$F = \frac{\text{The biggest variant}}{\text{The smallest variant}}$$

Hypotheses is accepted if  $F_{(count)} \leq F_{(table)}$

Hypotheses is rejected if  $F_{(count)} \geq F_{(table)}$

Hypothesis was rejected if  $F \leq F_{\frac{1}{2}}(n_1-1, n_2-1)$ , while if  $F_{count} > F_{table}$ , hypothesis was accepted. It determined with significant level 5% (0,05) and dk numerator was  $(n_1-1)$  while dk denominators was  $(n_2-1) = 2.052$  and  $2.045$ .

## 2. Hypothesis test

Based on the hypothesis, the analysis of the data was done to find out the ability of two groups that have been divided into experiment class and control class. The hypothesis is to answer the result of the research. So, the data will be analyzed by using the following *t-test* formula:<sup>13</sup>

$$H_a: \mu_1 > \mu_2$$

$$H_0: \mu_1 \leq \mu_2$$

If  $H_a: \mu_1 > \mu_2$ , it means the result of students' reading comprehension by using CIRC (cooperative integrated reading and composition) strategy at grade XI MAN 1 Padangsidempuan was better than conventional strategy. But, if the  $H_0: \mu_1 \leq \mu_2$ , it means the result of students' reading comprehension by using CIRC (cooperative integrated reading and composition) strategy at

---

<sup>13</sup>Suharsimi Arikunto, *Op. Cit.*, p. 311.

grade XI MAN 1 Padangsidempuan was not better than conventional strategy.

To test the hypothesis, researcher used the formula as follow:<sup>14</sup>

$$t = \frac{\bar{X}_1 - \bar{X}_2}{s \sqrt{\frac{1}{n_1} + \frac{1}{n_2}}}$$

Where:

$\bar{x}_1$  = Mean of experimental class sample

$\bar{x}_2$  = Mean of control class sample

$n_1$  = Total of experimental class sample

$n_2$  = Total of control class sample

and the formula of standard deviation was:

$$s = \sqrt{\frac{(n_1 - 1)s_1^2 + (n_2 - 1)s_2^2}{n_1 + n_2 - 2}}$$

Where:

$s$  = Variant

$s_1^2$  = Variant of experimental class

$s_2^2$  = Variant of control class

---

<sup>14</sup> Sugiyono. *Statistika untuk Penelitian*. (Bandung: Alfabeta, 2011), p. 138-139.

To test the criteria of hypothesis was if  $H_0$  was accepted by –  
 $t_{table} < t_{count} < t_{table}$ . by opportunity  $\left(1 - \frac{1}{2}\alpha\right)$  and  $dk = (n_1 + n_2 - 2) = (28 + 30 - 2 = 56) = 1.68$  and  $H_0$  was rejected if there was  $t$  has the other results.



## CHAPTER IV

### DATA ANALYSIS

For analyzing the data, researcher collected the data and gave the test about reading comprehension to the sample. The sample of this research was class XI IPA-2 for experimental class and class XI IPA-1 for control class. The test was divided into two aspect, they were pre-test and post-test. Pre-test was done before conducted the treatment and post- test was done after conducted the treatment. Researcher applied quantitative analysis by used the formulation of *t-test*. It was done to know the effect of CIRC (Cooperative Integrated Reading and Composition) strategy on students' reading comprehension. Then, researcher would describe the result based on the data that had been researched as follow.

#### **A. Description of Data Before and After Using Cooperative Integrated Reading and Composition (CIRC) strategy in Experimental Class**

##### **1. The Score of Pre-test Experimental Class**

**Tabel VII**  
**The score of experimental class in pre-test**

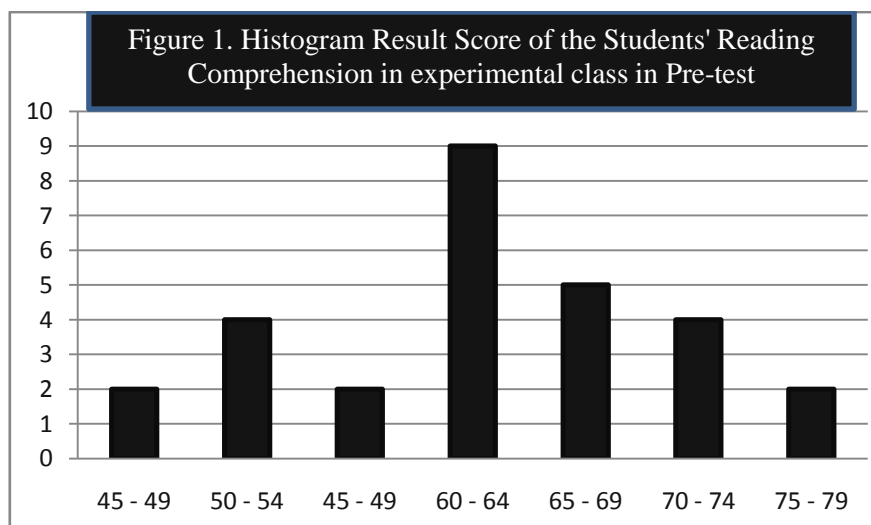
Total	1685
Highest score	75
Lowest score	45
Mean	61.5
Standart deviation	81.15
Varians	73.11
Median	66.15
Modus	62.65
Range	30
Interval	5

Based on the table above the total score of experiment class in pre-test was 1685, mean was 61.5, standart deviation was 81.15, varians was 73.11, median was 66.15, range was 30, modus was 62.65, interval was 5. The researcher got the highest score was 75 and the lowest score was 45 . Next, the calculation of how to get it could be seen in the appendix 18 . Then, the computed of the frequency distribution of the students' score of experiment class could be applied into table frequency distribution as follow:

**Table VIII**  
**The Frequency Distribution of Students' Score**

No	Interval	Frequency	Percentages
1	45-49	2	7.14%
2	50-54	4	14.28%
3	55-59	2	7.14%
4	60-64	9	32.14%
5	65-69	5	17.85%
6	70-74	4	14.28%
7	75-79	2	7.14%
$i = 5$		28	100%

Based on the table above, it can be drawn at histogram as follow:



## 2. The Score Post-test of Experimental Class

**Tabel IX**  
**The score of eksperimental class in post-test**

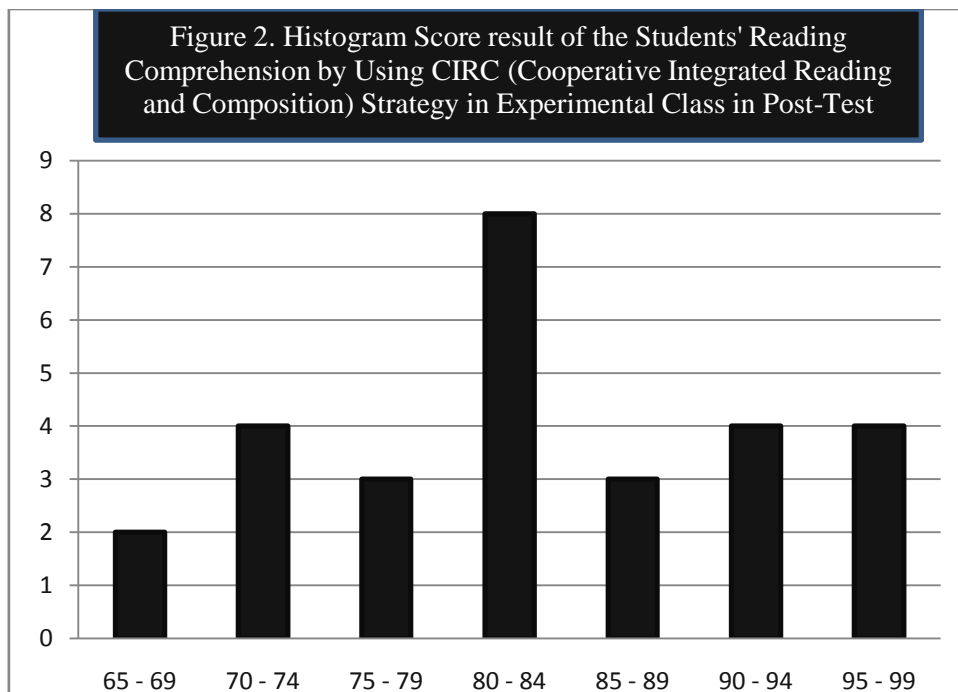
Total	2270
Highest score	95
Lowest score	65
Mean	80.95
Median	86.35
Mode	82
Range	30
Interval	5
Standart deviation	9
Varians	83.99

Based on the table above the total score of experiment class in post-test was 2270, mean was 80.95, median was 86.35, mode was 82, range was 30, interval was 5, standart deviation was 9, varians was 83.99. The researcher got the highest score was 95 and the lowest score was 65 . Next, the calculation of how to get it could be seen in the appendix 20. Then, the computed of the frequency distribution of the students' score of experiment class could be applied into table frequency distribution as follow:

**Table X**  
**The Frequency Distribution of Students' Score**

No	Interval Class	F	Percentages
1	65 – 69	2	7.14%
2	70 – 74	4	14.28%
3	75 – 79	3	10.71%
4	80 – 84	8	28.57%
5	85 – 89	3	10.71%
6	90 – 94	4	14.28%
7	95 – 99	4	14.28%
	$i = 5$	28	100%

Based on the table above, it can be drawn at histogram as follow:



## **B. Description of Data before Using Cooperative Integrated Reading and Composition (CIRC) strategy in Control Class**

### **1. The Score of Pre Test Control Class**

**Tabel XI  
The Score of Control Class in Pre Test**

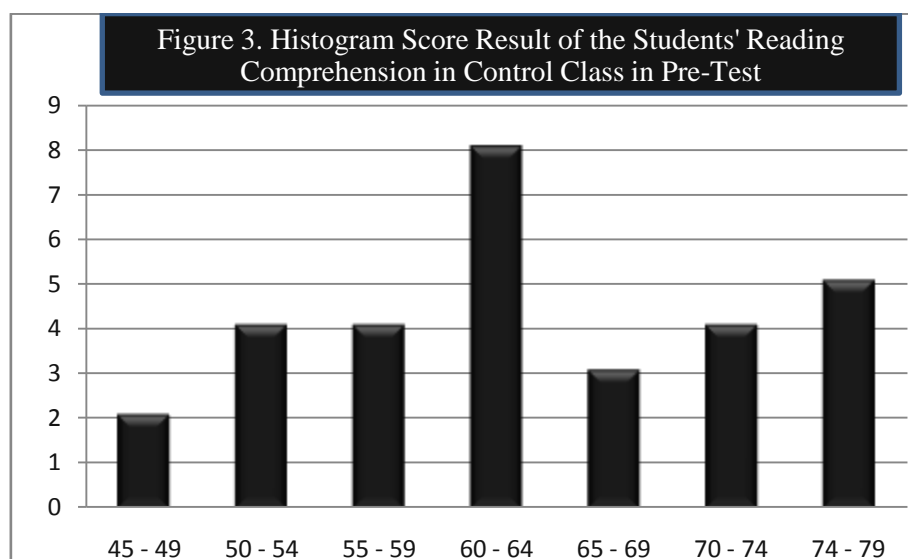
Total	1840
Highest score	75
Lowest score	45
Mean	60.7
Median	66.35
Modus	61.7
Range	30
Interval	5
Standart deviation	9.1
Varians	86.09

Based on the table above the total score of control class in pre-test was 1840, mean was 60.7, median was 66.35, mode was 61.7, range was 30, interval was 5, standart deviation was 9.1, varians was 86.09. The researcher got the highest score was 75, and the lowest score was 45.(See appendix 18). Then, the computed of the frequency distribution of the students' score of experiment class could be applied into table frequency distribution as follow:

**Table XII**  
**The Frequency Distribution of Students' Score**

No	Interval Class	F	Percentages
1	45 - 49	2	6.66%
2	50 - 54	4	13.33%
3	55 - 59	4	13.33%
4	60 - 64	8	26.66%
5	65 - 69	3	10%
6	70 - 74	4	13.33%
7	75 - 79	5	16.66%
$i = 5$		30	100%

Based on the table above, it can be drawn at histogram as follow:



## 2. The Score of Control Class in Post-Test

**Tabel XIII**  
**The Score of Control Class in Post-Test**

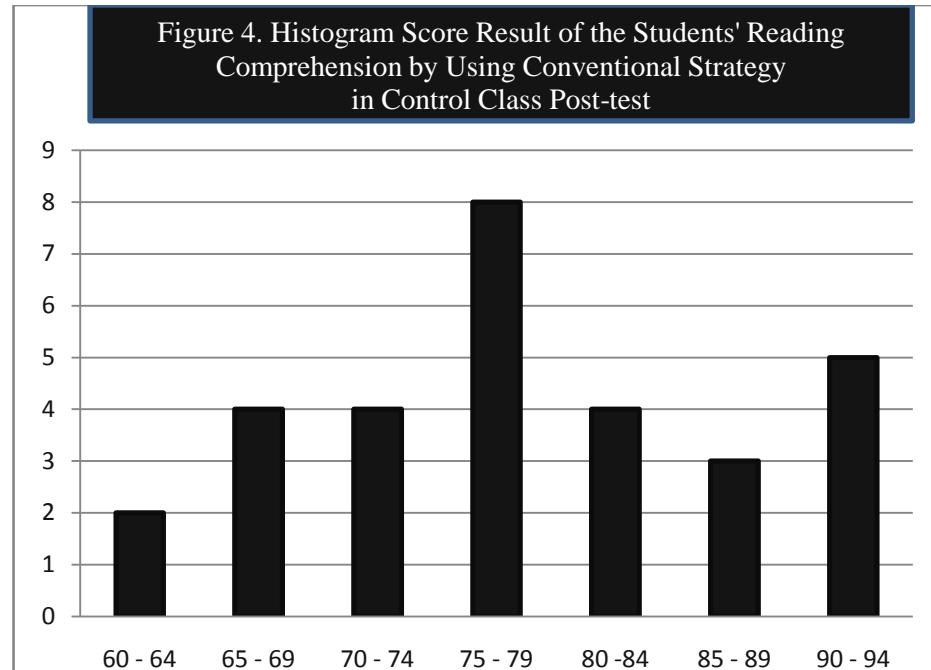
Total	2285
Highest score	90
Lowest score	60
Mean	75.85
Median	81.35
Mode	77
Range	30
Interval	5
Standart deviation	9
Varians	152.90

Based on the table above the total score of control class in post-test was 2285 ,mean was 75.85, standart deviation was 9, varians was 152.90, median was 81.35, mode was 77, range was 30, interval was 5. The researcher got the highest score was 90 and the lowest 60 score was . Next, the calculation of how to get it could be seen in the appendix 21 . Then, the computed of the frequency distribution of the students' score of experiment class could be applied into table frequency distribution as follow:

**Table XIV**  
**The Frequency Distribution of Students' Score**

No	Interval Class	F	Percentages
1	60 – 64	2	6.66%
2	65 - 69	4	13.33%
3	70 - 74	4	13.33%
4	75 - 79	8	26.66%
5	80 - 84	4	13.33%
6	85 - 89	3	10%
7	90 – 94	5	16.66%
	$i = 5$	30	100%

Based on the table above, it can be drawn at histogram as follow:



## C. Technique of Data Analysis

### 1. Requirement test

#### a. Normality and Homogeneity Pre Test

##### 1) Normality of Experimental Class and Control Class in Pre-Test

**Tabel XV**  
**Normality and homogeneity in pre-test**

Class	Normality Test		Homogeneity Test	
	$t_{count}$	$t_{table}$	$t_{count}$	$t_{table}$
Experiment Class	1.42	5.991	1.17 < 2.021	
Control Class	2.11	5.991		

Based on the table above that has been calculated by researcher, the score of exsperiment class  $L_o = 1.42 < L_t = 5,991$  with  $n = 28$  and control class  $L_o = 2,11 < L_t = 5,991$  with  $n = 30$ , and real level  $\alpha = 0,05$ . Cause  $L_o < L_t$  in the both class. So,  $H_o$  was accepted. It mean that experiment class and control class were distributed normal. (See appendix 18).

## 2) Homogeneity of Experimental Class and Control Class in Pre-test

Then, the coefficient of  $F_{count} = 1.17$  was compared with  $F$  table. Where  $F$  table was determined at real  $\alpha = 0,05$ , and the same numerator  $dk = N - 1 = 28 - 1 = 27$  and denominator  $dk = N - 1 = 30 - 1 = 29$  So, by using the list of critical value at  $F$  distribution is got  $F_{0,05} = 2.052$  and  $2.048$ . It showed that  $F_{count} (1,17) < F_{table} (2.052 \text{ and } 2.048)$ . So, it could be concluded that the variant from the data of the students' Reading Comprehension at MAN 1 Padangsidempuan by experimental and control class was homogen. The calculation could be seen on the appendix 19.

## b. Normality and Homogeneity Post Test

### 1) Normality of experimental class and control class in Post-test

**Tabel XVI**  
**Normality and homogeneity in post-test**

Class	Normality Test		Homogeneity Test	
	$t_{count}$	$t_{table}$	$t_{count}$	$t_{table}$
Experiment	1.42	5,991		



Class			1,82<2.021
Control Class	2.11	5,991	

Based on the table above researcher calculation, the score of eksperimental class  $L_o=1.42 < L_t=5.991$  with  $n =28$  and control class  $L_o=2.11 < L_t=5.991$  with  $n=30$ , real level  $\alpha$  was 0,05. Cause  $L_o < L_t$  in the both class. So,  $H_a$  was accepted, it mean that experiment class and control class were distributed normal. The calculation could be seen on the appendix 20 and 21.

## 2) Homogeneity of Experimental Class and Control Class in Post-Test

Then, the coefficient of  $F_{count} = 1,82$  was compared with F table. Where F table was determined at real  $\alpha = 0.05$ , and the same numerator  $dk=N-1= 28-1=27$  and denominator  $dk N-1= 30-1=29$  So, by using the list of critical value at F distribution was got  $F_{0,05}=2.052$  and 2.048. It showed that  $F_{count} (1.82) < F_{table} (2.052 \text{ and } 2.048)$ . So, it could be concluded that the variant from the data of the students' ability in Students' Reading Comprehension at MAN 1 Padangsidempuan by experimental and control class was homogen. The researcher's calculation could be seen on appendix 22.

## 2. Hypothesis Test

To prove hypothesis the data would be analyzed by using formula of T-test. Hypothesis alternative ( $H_a$ ) of research was "There was the effect of

CIRC (Cooperative Integrated Reading and Composition) strategy on Students' Reading Comprehension. The result of the researcher's calculation could be seen as follow:

$$t = \frac{\bar{X}_1 - \bar{X}_2}{\sqrt{\frac{1}{n_1} + \frac{1}{n_2}}} \text{ with } S = \sqrt{\frac{(n_1 - 1)S_1^2 + (n_2 - 2)S_2^2}{n_1 + n_2 - 2}}$$

So:

$$\begin{aligned} S &= \sqrt{\frac{(28-1)83.99+(30-2)152.90}{28+30-2}} \\ &= \sqrt{\frac{27(83.99)+28(152.90)}{56}} \\ &= \sqrt{\frac{2267.73+4281.2}{56}} \\ &= \sqrt{\frac{6548.93}{56}} \\ &= \sqrt{116.94} \\ &= 10.81 \end{aligned}$$

So:

$$\begin{aligned} t &= \frac{\bar{X}_1 - \bar{X}_2}{\sqrt{\frac{1}{n_1} + \frac{1}{n_2}}} \\ t &= \frac{80.95 - 75.85}{10.81 \sqrt{\frac{1}{28} + \frac{1}{30}}} \\ &= \frac{5.1}{10.81 \sqrt{0.035 + 0.033}} \end{aligned}$$

$$= \frac{5.1}{10.81 (0.068)}$$

$$= \frac{5.1}{0,73}$$

$$= 6.98$$

**Table XVII**  
**Result of T-test from the Both Averages**

<b>Pre-test</b>		<b>Post-test</b>	
$t_{\text{count}}$	$t_{\text{table}}$	$t_{\text{count}}$	$t_{\text{table}}$
0.44	2.021	6.98	2.021

$$H_a: \mu_1 > \mu_2$$

$$H_o: \mu_1 \leq \mu_2$$

Where:

$H_a: \mu_1 > \mu_2$  “CIRC (Cooperative Integrated Reading and Composition)

strategy was better than conventional strategy on Students’ Reading Comprehension.”

$H_o: \mu_1 \leq \mu_2$  “CIRC (Cooperative Integrated Reading and Composition)

strategy was not better than conventional strategy on Students’ Reading Comprehension.”

Based on researcher calculation, researcher found that  $t_{\text{count}}$  6.98 while  $t_{\text{table}}$  2.021, with opportunity  $(1 - \alpha) = 1 - 5\% = 95\%$  and  $dt = (n_1 + n_2 - 2) = (28 + 30 - 2) = 56$ , cause  $t_{\text{count}} > t_{\text{table}}$  ( $6.98 > 2.021$ ). It means that hypothesis ( $H_a$ ) was accepted. So, there was the effect of CIRC (Cooperative Integrated Reading and Composition) strategy on Students’ Reading Comprehension. It

described the mean score of experiment class by using CIRC (Cooperative Integrated Reading and Composition) strategy was 80.95, and mean score of control class in using Conventional strategy was 75.85. So, From the explanation above, the students' Reading Comprehension by using CIRC (Cooperative Integrated Reading and Composition) strategy was better than conventional strategy ( $\mu^1 > \mu^2$ ). The calculation could be seen in appendix 23 and 24.

#### **D. Discussion**

Based on the related findings, the researcher discussed the result of this research and compared with the related findings. First, the research by Laila Febriani about the Effect of Skimming Strategy on Students' Achievement in Reading Comprehension, it was found that the score of pre test was 67.9. Second, the research by Zahro Marito Pohan about the Effect of Predicting Information from the Pictures on reading Comprehension, it was found that the score of pre test was 70.85. Third, the research by Paujiah about the Effect of Reciprocal Teaching Strategy to Students' Reading Comprehension, it was found that the score of pre test was 73.65. Meanwhile the score of pre test that the researcher found about the Effect of CIRC Strategy on Students' Reading Comprehension was 75.85.

On the contrary, the score of post test by Zahro Marito Pohan about the Effect of Predicting Information from the Pictures on Reading Comprehension was 73.93, and the score of post test by Paujiah about the Effect of Reciprocal Teaching Strategy on Stusents' Reading Comprehension was 74.96, and the score of post test by Laila Febriani about the Effect of Skimming Strategy on Students' Reading Achievement was 76.84. Meanwhile the score of post test that the researcher found about the effect of CIRC Strategy on Students' Reading Comprehension was 80.95. So, the score of post test by using CIRC Strategy was higher than Skimming Strategy ( $80.95 > 76.84$ ) with the range 4.11, Reciprocal Strategy ( $80.95 > 74.96$ ) with the range 5.99 and also Predicting Information from the Pictures ( $80.95 > 73.93$ ) with the range 7.02.

Additionally, the score of  $t_{\text{test}}$  by Laila Febriani about the effect of Skimming Strategy was  $t_0$  1.88, meanwhile  $t_t$  was 1.66 ( $t_0 > t_t$ ), and the score of  $t_{\text{test}}$  by Paujiah about the effect of Reciprocal Teaching Strategy was  $t_0$  2.18 meanwhile  $t_t$  was 1.67 ( $t_0 > t_t$ ), and the score of  $t_{\text{test}}$  by Zahro Marito Pohan about the effect of Predicting Information from the Pictures was  $t_0$  5.06 and  $t_t$  was 3.46 ( $t_0 > t_t$ ). Meanwhile the research by using CIRC Strategy researcher found  $t_0$  was higher than  $t_t$  ( $6.98 > 2.021$ ).

Based on the analysis above, at this point the researcher concluded that using CIRC (Cooperative Integrated Reading and Composition) strategy was better than using skimming strategy with the result ( $6.98 > 2.021$ )  $>$  ( $1.88 > 1.66$ ) with the range 5.1. Then, CIRC (Cooperative Integrated Reading and

Composition) strategy was better than using reciprocal teaching strategy  $(6.98 > 2.021) > (2.18 > 1.67)$  with the range 4.8. Next, CIRC (Cooperative Integrated Reading and Composition) strategy was better than predicting from the pictures  $(6.98 > 2.021) > (5.06 > 3.46)$  with the range 1.92. Thus, the researcher concluded that CIRC (Cooperative Integrated Reading and Composition) strategy also was an effective and efficient strategy and can improve the students' reading comprehension.

#### **E. Threats of the Research**

The researcher found the threat of this research as follows:

1. The students needed more time for answering the test.
2. The students are noisy and lack of serious while teaching and learning process. So, it can disturb the concentration of the others.
3. There are some students that lack of serious to answer the test in pre-test and post-test. It can be the threat of the research. So, the researcher can not reach the validity of trustworthiness data.

## CHAPTER V

### CONCLUSION AND SUGGESTION

#### A. Conclusion

After this research had done, the researcher concluded that there was the effect of Cooperative Integrated Reading and Composition strategy on Students' Reading Comprehension of Descriptive Text at MAN 1 Padangsidimpuan. Hypothesis alternative ( $H^a$ ) was accepted. It could be seen from the mean score of experimental and control class (80,95 > 75,85) compared with the mean score in pre-test (61.5 > 60.70), and hypothesis zero ( $H_0$ ) was rejected with  $t_0 > t_t$  (6.98 > 2.021). So, the CIRC (Cooperative Integrated Reading and Composition) strategy also was an effective and efficient strategy on students' reading comprehension.

#### B. Suggestion

After this research was done, the researcher got much information in English teaching and learning process. Therefore, the researcher had suggestion to:

1. The Principal of MAN 1 Padangsidimpuan, to motivate the teacher, especially English teachers to teach as well as possible by maximizing the using of CIRC (Cooperative Integrated Reading and Composition) strategy in teaching, because through this research, it was significantly proven that this strategy increased the students' reading Comprehension.

2. The English teacher, to increase the students' ability in learning English, especially in increasing the students' ability in reading comprehension. One of the efficient and effective strategy that can increase reading comprehension was through Cooperative Integrated Reading and Composition Strategy.
3. Other researcher, the findings of this research were subject matters which can be developed largely and deeply by adding other variables or enlarge the samples.



## REFERENCES

- A.S Hornby, *Oxford Advanced Learner's Dictionary*. New York: Oxford University Press, 1995.
- Agus Irianto, *Statistik Konsep Dasar dan Aplikasinya*. Padang: P2LPTK, 2003.
- Agus Suprijono, *Cooperative Learning Teori dan Aplikasi PAIKEM*. Yogyakarta: Pustaka Pelajar, 2009.
- Anas Sudijono, *Pengantar Evaluasi Pendidikan*. Jakarta: PT Raja Grafindo Persada, 1996.
- \_\_\_\_\_, *Pengantar Statistik Pendidikan*. Jakarta: PT. Raja Grafindo Persada, 2005.
- Brown, H. Douglas. *Language Assessment Practical and language Practice*. San Francisco: Longman, 2003.
- \_\_\_\_\_. *Language Assessment Principles and Classroom Practice*. USA: Longman, 2004.
- \_\_\_\_\_. *Teaching by Principles an Interactive Approach to Language Pedagogy the Second Edition* California: Longman, 2000.
- Creswell, Jhon. *Research Design Qualitative, Quantitative and Mixed Methods Approaches Second Edition* USA: Prentice hall, 2000.
- Gay, L. R and Peter Airaisan. *Educational Research for Analysis and Application*, America: Prentice Hall, 1992.
- Harmer, Jeremy. *How to Teach English an Introduction to The Practice of English Language Teaching*. Malaysia: Longman, 1998.
- Henry Guntur Tarigan. *Menulis Sebagai Sebuah Keterampilan Berbahasa*. Bandung: Angkasa, 2005.
- Mardalis, *Metode Penelitian: Suatu Pendekatan Proposal*. Jakarta: Bumi Aksara, 2003.
- McWhorter, Kathleen T. *Efficient and Flexible Reading*. USA: Harper Collins Publisher, 1992.

- Muhammad Taqi'uddin al-Hilali. *Translation of the Meaning of the Noble Qur'an in the English language*. Madinah: King Fahd Complex for the Printing of the Holy Qur'an. 1404 H.
- Murni Djamal Dkk, *Improving Reading Skills in English Dictionary*. Jakarta: Darul Ulum Pres. 2001
- Nunan, David. *Practical English Language Teaching*. New York: McGraw Hill, 2003.
- O, Malley, J. Michael and Lorraine Valdez Pierce. *Authentic Assessment for English Language Learners*. United states of America: Addison-Wesley Publishing Company, 1996.
- Otong Djuharie Setiawan , *Genre*, Bandung: Yrama Widia, 2007.
- Orlich, Donald C. *Teaching Strategy a Guide to Better Instruction*. America: D.C Healt and Company, 1985.
- Otto, Wayne. *et al.* 1979. *How to Teach Reading*. USA: Addison-Wesley Publishing Company.
- Oxford Learner's. *Pocket Dictionary*. New York: Oxford University Press, 2003.
- Richard A Renandya. *Language Teaching Methodolog* . Cambridge University, 2006.
- Sanggam Siahaan and Kisno Shinoda, *Generic Text structure*, Yogyakarta: Graha Ilmu, 2008.
- Slavin, Robert E. *Cooperative Learning, (Theory, Research and Practice. Secend Edition)*. London: Allyn and Bacon, 1995.
- Sugiyono. *Statistika Untuk Penelitian*. Bandung: Alfabeta, 2011.
- Suharsimi Arikunto. *Prosedur Penelitian Suatu Pendekatan Praktik*. Jakarta: Rineka Cipta, 2006.
- Tankersley, Karen. *The Threads of Reading; Strategies for Literacy Development*. USA: ASCD, 2003.

Wainwright,, Gordon. *Speed Reading Better Recalling*. Jakarta: Gramedia, 2007.

Weir, Cyril J. *Communicative Language Testing*. New York: Prentice Hall. 1990

.

## TABLE OF CONTENTS

	Page
<b>TITLE PAGE .....</b>	
<b>LEGALIZATION OF ADVISORS SHEET.....</b>	
<b>AGREEMENT OF ADVISORS SHEET .....</b>	
<b>DECLARATION LETTER OF WRITING OWN THESIS.....</b>	
<b>PUBLICATION THE LAST OF THE TASK FOR ACADEMIC.....</b>	
<b>MUNAQOSYAH EXAMINATION SHEET .....</b>	
<b>LEGALIZATION OF DEAN TARBIYAH AND TEACHER TRAINING FACULTY .....</b>	
<b>ABSTRACT.....</b>	<b>i</b>
<b>ACKNOWLEDGEMENT .....</b>	<b>ii</b>
<b>TABLE OF CONTENTS .....</b>	<b>iv</b>
<b>LIST OF TABLES .....</b>	<b>vi</b>
<b>LIST OF FIGURES .....</b>	<b>vii</b>
<b>LIST OF APPENDIXES .....</b>	<b>viii</b>
<b>CHAPTER I INTRODUCTION</b>	
A. Background of the Problem .....	1
B. Identification of the Problem .....	4
C. Limitation of the Problem .....	5
D. Definition of the Operational Variables .....	5
E. Formulation of the Problem .....	7
F. Purpose of the Research .....	7
G. Significances of the Research .....	7
H. Outline of the Thesis .....	8
<b>CHAPTER II THEORETICAL DESCRIPTION</b>	
A. Theoretical Description.....	9
1. CIRC Strategy .....	9
2. Conventional Strategy .....	12
3. Reading Comprehension .....	13

4. Descriptive Text .....	20
B. Review of Related Findings .....	24
C. Conceptual Framework .....	25
D. Hypothesis .....	27
<b>CHAPTER III RESEARCH METHODOLOGY</b>	
A. Place and Schedule of Research.....	28
B. Research Design.....	28
C. Population and Sample.....	29
D. Instrument of Collecting Data.....	34
E. Validity and Reliability of Instrument .....	35
F. Technique of Collecting Data .....	38
G. Technique of Data Analysis .....	40
<b>CHAPTER IV THE RESULT OF THE RESEARCH</b>	
A. Description of Data Before and After Using CIRC Strategy in Experimental Class .....	44
B. Description of Data in Control Class .....	47
C. Technique of Analysis Data .....	50
D. Discussion .....	55
E. Threats of the Research.....	57
<b>CHAPTER V THE CONCLUSION AND SUGGESTION</b>	
A. Conclusion .....	58
B. Suggestion.....	59
<b>REFERENCES</b>	
<b>CURRICULUM VITAE</b>	
<b>APPENDIXES</b>	

## LIST OF TABLE

		Page
Table I	Example of Descriptive Text.....	22
Table II	Design of Instrument .....	29
Table III	Population of the Research .....	30
Table IV	Sample of the Research .....	33
Table V	The Indicators Reading Comprehension (Pre test).....	34
Table VI	The Indicators Reading Comprehension (PostTest).....	35
Table VII	The Score of Experimental Class in Pre Test .....	44
Table VIII	The Frequency Distribution of Students' Score .....	45
Table IX	The Score of Experimental Class in Post Test .....	46
Table X	The Frequency Distribution of Students' Score.....	46
Table XI	The Score of Control Class in Pre test.....	47
Table XII	The Frequency Distribution of Students' Score.....	48
Table XIII	The Score of Control Class in Post Test.....	49
Table XIV	The Frequency Distribution of Students' Score.....	49
Table XV	Normality and Homogeneity Pre Test.....	50
Table XVI	Normality and Homogeneity PostTest.....	51
Table XVII	Result of T-test .....	54

## LIST OF FIGURE

	Page
Figure 1 The Histogram of Students' Score in Experimental Class for Pre-Test .....	45
Figure 2 The Histogram of Students' Score in Experimental Class for Post Test .....	47
Figure 3 The Histogram of Students' Score in Control Class for Pre-Test .....	48
Figure 4 The Histogram of Students' Score in Control Class for Post-Test....	50

## **LIST OF APPENDIXES**

- Appendix 1 Lesson Plan of Experiment Class
- Appendix 2 Lesson Plan of Control Class
- Appendix 3 Instrument of Test Validity for Pre-Test
- Appendix 4 Instrument of Test Validity for Post-Test
- Appendix 5 Key Answer of Pre-Test and Post-Test Validity
- Appendix 6 Table Validity of Pre Test
- Appendix 7 Table Validity of Pre Test
- Appendix 8 Calculation of Pre Test
- Appendix 9 Validity of Post Test
- Appendix 10 Table Validity of Post Test
- Appendix 11 Calculation of Post- Test
- Appendix 12 Table Reliability of Pre Test
- Appendix 13 Table Reliability Post Test
- Appendix 14 Reliability of Pre Test
- Appendix 15 Reliability of Post Test
- Appendix 16 Score of Experiment class in Pre Test
- Appendix 17 Score of Control Class in Pre Test
- Appendix 18 Result of Normality test in Pre Test XI IPA-1, XI IPA-2 and XI IPA-3
- Appendix 19 Homogeneity Test of Pre Test
- Appendix 20 Result of Normality Test of Experiment Class Post Test
- Appendix 21 Result of Normality Test of Control Class Post Test
- Appendix 22 Homogeneity Test Post test
- Appendix 23 Table T-Test in Pre Test
- Appendix 24 Table T- Test in Post Test
- Appendix 25 Table Chi- Square
- Appendix 26 Table Z- Score
- Appendix 27 Percentage of the t Distribution
- Appendix 28 Photos Research