

# THE EFFECT OF USING RETELLING STRATEGY ON STUDENTS' READING COMPREHENSION AT VIII GRADE OF MTs N BATANG ANGKOLA TAPANULI SELATAN 

## A THESIS

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

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Padangsidimpuan, Juli 2019
To:
Dean of Tarbiyah and Teacher
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Assalamu'alaikumWr.Wb.
After Reading, studying and giving advice for necessary revision on thesis belongs to MASRIYANTI , entitled. "THE EFFECT OF USING RETELLING STARATEGY ON STUDENTS' READING COMPREHENSION AT VIII GRADE OF MTs N BATANG ANGKOLA TAPANULI SELATAN". We assume that the thesis has been acceptable to complete the requirement to fulfill for the degree of Graduate Education (S.Pd.) in English Department of Tarbiyah and Teacher Training Faculty in IAIN Padangsidimpuan.

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 Padangsidimpuan. Thank you.

Wassalamu'alaikumWr.Wb.

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## LEGALIZATION

| Thesis | :THE EFFECT OF USING RETELLING |
| :--- | :--- |
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|  | COMPREHENSION AT VII GRADE OF MTs N |
|  | BATANG ANGKOLA TAPANULI SELATAN |
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The thesis had been accepted as a partial fulfillment of the requirement for the degree of Education (S.Pd).

Padangsidimpuan, 22August 2019


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#### Abstract

Name Register Number Faculty Department The Title of the Thesis : Masriyanti : 133400092 : Tarbiyah and Teacher Training Faculty : English Education (TBI-3) : The Effect of Using Retelling Strategy on Students' Reading Comprehension at VIII Grade of MTs N Batang Angkola Tapanuli Selatan


This research is focused on the effect of using Retelling Strategy on students' reading comprehension at VIII grade MTs N Batang Angkola Tapanuli selatan. The problems of this research were most of students had low in reading comprehension. The crucial problems that influence the students' reading comprehension were: students' reading comprehension was low, Students did not have a great interest in reading comprehension, Students are lack of willingness in reading text. This research purposed to describe the students' knowledge in reading comprehension and students' problem in learning process by using Retelling Strategy at grade VIII MTs N Batang Angkola Tapanuli Selatan.

This research has been done by experimental research, the population of this research was at grade VIII MTsN Batang Angkola. The total of population was six classes consist of 204 students. Then, the sample of this research was divide two classes, the first experimental class (VIII-2) and the second control class (VIII-3), they were consist of 63 students. To collect the data, the researcher used test for measuring. To analysis the data the researcher used formulation of $t$-test.

Based on the result of the research, the researcher found that the result of experimental class was higher that control class. Mean score for experimental and control class in pre-test was ( $58.36>55.47$ ), mean score for experimental class and control class in post-test ( $87.78>73.42$ ). The effect of using Retelling Strategy on students' reading comprehension was $6.805>2.00$ with $t_{0}$ is higher than $t_{t}$. It means $\mathrm{H}_{\mathrm{a}}$ was accepted and $\mathrm{H}_{0}$ was rejected. So, it was concluded that there was significant effect of using Retelling Strategy on the students' Reading Comprehension at grade VIII MTsN Batang Angkola Tapanuli Selatan.

Keywords: Retelling Strategy and Reading Comprehension.


#### Abstract

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Penelitian ini difokuskan pada efek menggunakan Strategi Menceritakan Kembali pada pemahaman membaca siswa di kelas VIII MTs N Batang Angkola Tapanuli selatan. Permasalahan dalam penelitian ini adalah sebagian besar siswa memiliki pemahaman membaca yang rendah. Masalah krusial yang mempengaruhi pemahaman membaca siswa adalah: pemahaman membaca siswa rendah, siswa tidak memiliki minat yang besar dalam pemahaman membaca, siswa kurang kemauan dalam membaca teks. Penelitian ini bertujuan untuk mendeskripsikan pengetahuan siswa dalam pemahaman membaca dan masalah siswa dalam proses pembelajaran dengan menggunakan Retelling Strategy di kelas VIII MTs N Batang Angkola Tapanuli Selatan.

Penelitian ini dilakukan dengan penelitian eksperimental, populasi penelitian ini adalah siswa kelas VIII MTsN Batang Angkola. Total populasi adalah enam kelas yang terdiri dari 204 siswa. Kemudian, sampel penelitian ini adalah dibagi menjadi dua kelas, pertama, kelas eksperimen (VIII-2) dan kedua, kontrol kelas (VIII-3), terdiri dari 63 siswa. Untuk mengumpulkan data, peneliti menggunakan tes untuk mengukur. Untuk menganalisis data, peneliti menggunakan perumusan uji-t.

Berdasarkan hasil penelitian, peneliti menemukan bahwa hasil kelas eksperimen lebih tinggi dari kelas kontrol. Nilai rata-rata untuk kelas eksperimen dan kontrol dalam pre-test adalah ( $58,36>55,47$ ), skor rata-rata untuk kelas eksperimen dan kelas kontrol dalam post-test (87,78> 73,42). Efek menggunakan Strategi Menceritakan Kembali pada pemahaman membaca siswa adalah 6,805> 2,00 dengan $t_{0}$ lebih tinggi dari $t_{\mathrm{t}}$. Itu berarti Ha diterima dan H0 ditolak. Jadi, disimpulkan bahwa ada pengaruh yang signifikan menggunakan Strategi Menceritakan Kembali pada Pemahaman Membaca siswa di kelas VIII MTsN Batang Angkola Tapanuli Selatan.

Kata Kunci : Retelling Strategy,Reading Comprehension

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Padangsidimpuan, July 2019 Researcher

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## CHAPTER I

## INTRODUCTION

## A. Background of the Problem

Reading is one of the language skill that should be taught beside the other skill. Reading is the process of cognition, interpretation, and perception, of a written or printed material. Reading is a fluent process of readers combining information from a text and their own background knowledge to build meaning. Reading is an essential skill for learners of English as a second language. Reading is bringing meaning to and getting meaning from printed or written material. As one of the four language skills, reading is really important for students of junior high school, especially those in Indonesia, since this skill is highly needed for them to deal with the growing exposure of English in daily life. The goal of reading is comprehension.

Comprehension is the ability of readers to get meaning from text. Comprehension is critically important to the development of student's reading skill. Comprehension is an important element during all states of literacy development. Students who read more fluently are able to focus on meaning, hold more of the information in their working memory, and incorporate their own background knowledge with what they have read. The students must have extensive knowledge if they want to know and comprehend something and there were few reasons why reading necessary in our life. With reading,
the readers can explore new things, increase their knowledge, improve their self, can add their vocabulary, can add their insight, increase focus and concentration, increase memory quality, increase social contact.

In teaching and learning process of reading in Junior High School, students are required to comprehend and to respond meaning of short functional texts and essays in their daily life in order to access knowledge. Comprehension is the key of reading, without comprehension, the activity of reading will not achieve the goals. Teaching reading in MTs N Batang Angkola is based on the School-Based Curriculum. The School Based Curriculum is an operational curriculum that is arranged, developed, and implemented by each school that is ready and able to develop it. School Based Curriculum consists of the target education of level based education, structure and contents of the curriculum in the educational unit level, educational calendar and syllabus. The development of School Based Curriculum is taken references on Content Standard (Standar Isi) and Graduate Competence Standard (Standar Kompetensi Lulusan). In the area of teaching reading for junior high school, the students are expected to be able to understand written text to reach the functional level including the ability of understanding many kinds of short functional texts. Short functional text is a short text that has a specific function, meaning, and purpose used in daily life. Example; letter, message, announcement, shopping list, invitation, etc. long functional text is a long text or essays to give agree with particular functions. Some types of long
functional text; procedure texts, descriptive texts, recount texts, narrative texts and etc.

However, the circumstance which is find in the class VIII of MTs N Batang Angkola shows that the students unfortunately had some difficulties in comprehending the reading material. Consequently, they get nothing in reading as they find difficulty in grasping the information of texts. That students' inability to comprehend texts is caused by some factors as the following.

The first, the students did not have a great interest in reading as it is reflected by their behavior in the class. They often laid their head down on the table and silent when the teacher asked them to read the text. They just look at the text even they did not know how to read the text. When the teacher asked them to answer a question orally about text being discussed, they kept quiet and ignore her. So, it can be concluded that students find difficult to understand what is on reading passage since they did not know the strategy which can help them to comprehend the text.

Second, based on researcher's observation and interview with the English Teacher of MTs N Batang Angkola, in teaching practice program (PPL) Mr. Suyono S.Ag said that students had low comprehension of texts, most of them still get low grade with average 60-65, meanwhile the standard of

English competency in this school is $75 .{ }^{1}$ Most of students do not understand the text that they read. Students cannot relate the information from one paragraph to another. Sometimes, they just read a text and when they had to tell about the text, they know nothing. It means that students did not know precisely how to comprehend texts. It can be conclude that the students' comprehension still low and needed to be increase.

The last, students lack of willingness in reading text and low intensity to communicate with their friends. There is a fact that group work is rarely conducted the teacher. The students usually do the activity individually. Many students have difficulty to comprehend what they read. So, if they had difficulties in comprehending the text, they tended to be silent.

As a matter of facts, there must be a suitable strategy or method for teaching reading in which students can explore their idea to improve their reading comprehension. Retelling strategy is effective to be used can be seen from the previous research. Actually, there were researchers had done classroom action research (CAR) about the "Improving the students' reading comprehension through retelling technique". The research written by Dedi Kisbhulloh. ${ }^{2}$ The result of the research show by there was a significant

[^0]difference of the students' reading comprehension achievement after being taught through Retelling strategy. So, the researcher need to prove further by conducting in experimental research.

The most basic level of reader response is the literal retelling, which asks students to recall many details from the story they can. Retelling requires the reader to organize text information in order to provide a personal rendition of it. Koskinen stated retelling has been found to significantly improve story comprehension, sense of story structure, and oral language complexity. ${ }^{3}$ It means that, the students reconstruct the text with their word and understanding of the text with evaluating content the text.

According to Patricia's journal Rose et.al states that retelling is significantly increased the reading comprehension of elementary age learning disabled children. ${ }^{4}$ So, it can be concluded retelling increased reading comprehension and suitable for reading comprehension.

The reason of choosing this title because the researcher want to help students in reading comprehension by using retelling strategy. By using retelling strategy, the researcher hopes that it allows the students to enjoy the materials that they may not be able to read on their own. It provides an

[^1]opportunity for readers to process what they have read by organizing and explaining it to others. In this case the, the researcher using retelling strategy on students' reading comprehension in Recount text.

## B. Identification of the Problem

Based on the explanation of background above, the identification of the problem are;

1. Students' reading comprehension is low
2. Students did not have a great interest in reading comprehension
3. Students' are lack of willingness in reading text.

There some method or strategy that have the effect on students' reading in recount text. From the problem, the researcher concerns to find out the effect one method on students' reading recount text. It is Retelling strategy.

## C. Limitation of the Problem

Based on identification of the problem above, the researcher limits the problem of the research to investigate and only focus on students' reading comprehension is low. It will be solve by using Retelling strategy. Then, this research conducted by experimental research at VIII grade MTs N Batang Angkola Tapanuli Selatan 2017/2018 academic year.

## D. Formulation of the Problem

The problem is this research can be formulated as follows bellow:

1. How is the students' reading comprehension before using retelling strategy at VIII grade of MTs N Batang Angkola Tapanuli Selatan?
2. How is the students' reading comprehension after using retelling strategy at VIII grade of MTs N Batang Angkola Tapanuli Selatan?
3. Is there significant effect of using retelling strategy on students' reading comprehension at VIII grade of MTs N Batang Angkola Tapanuli Selatan?

## E. Objective of the Research

From above formulation of the problem, the purpose of this research are:

1. To describe students' reading comprehension before using retelling strategy at VIII grade of MTs N Batang Angkola Tapanuli selatan.
2. To describe students' reading comprehension after using retelling strategy at VIII grade MTs N Batang Angkola Tapanuli selatan.
3. To examine whether there is or there is not any significant effect of using retelling strategy at VIII grade MTs N Batang Angkola Tapanuli selatan.

## F. Significances of the Research

1. Theoretically
a. To fulfill a requirement to reach the first strata degree in English section in education department faculty of Tarbiyah and Teachers' Training State Institute for Islamic Studies (IAIN) Padangsidimpua.
b. As a input for the teachers especially the English learners that is research is expected to be able to increase their knowledge in learning reading text.
2. Practically
a. Headmaster, to encourage English teachers to use best strategy in comprehend the text.
b. English Teachers, to add references and strategies in teaching and reading comprehension.
c. Students, to easy make them comprehend and understand the text.
d. Researchers, to further the same topic of discussion.

## G. Definition of Operational Variables.

There are some term that use in this research, they are:

1. Retelling (Variable X )

Retelling is an activity to help students focus on their understanding of what they read and challenge them to communicate what they have learn to others. Retelling as a comprehension strategy, assessment tool, and social interaction process.
2. Students' Reading Comprehension

Students' reading comprehension is define as the ability of person on grade of junior high school in understanding English reading text such as finding the main idea or general information, identifying the specific information of the text, and identifying the textual reference.

## H. Systematic of the Thesis

The systematic if this research is divided into five chapters, every chapter is consists of many sub chapters with detail as follow;

Chapter one is introduction, consists of background of the problem, identification of the problem, limitation of the problem, formulation of the problem, purpose of research, significances of the research, definition of operational variable, and systematic of the thesis.

Chapter two is theoretical of Description, consists of Reading comprehension, Recount text, Retelling Strategy, review of related finding, conceptual framework and hypothesis.

Chapter three is Methodology of the research consists of place and time of the research, research methodology, population and sample, instrument of the research, procedure of data collection, technique of analyzing data.

Chapter four is Result of the research and data analyzing consists of description of the data before using Retelling strategy, description data after using Retelling strategy, hypothesis testing discussion and threats of the research.

Chapter five is consists of conclusion and suggestion.

## CHAPTER II

## THEORETICAL DESCRIPTION

## A. Theoretical Description

## 1. Reading Comprehension

## a. Definition of Reading

Reading is the practice of using text to create meaning. Reading is a fluent process of readers combining information from a text and their own background knowledge to build meaning. The goal of reading is comprehension. ${ }^{1}$ It means reading is the process to get information from written text. Reading is complex process; it involves much more than adding word meaning together. Reading involves not only understanding ideas, but also recognizing the relationship and structures among ideas. ${ }^{2}$ By reading, the readers will know what they have read and challenged to response the ideas.

Reading is the practice of using text to create meaning. The two key words here are creating and meaning. If there is no meaning being created, there is no reading taking place. ${ }^{3}$ Reading is the act of linking one idea to another. Putting ideas together to create a sensible

[^2]whole is the essential part of reading. ${ }^{4}$ Brown says "reading is a process of negotiating meaning; the readers bring to the text a set of schemata for understanding it, and it take is the product of that interaction. ${ }^{5}$ So, reading comprehension means understanding what has been read.

Reading is a process done and used by the reader to obtain the message, which would be conveyed by a writer through the media words/writing language. ${ }^{6}$ Reading is a receptive skill, it is transactional between a reader and a writer, reading is an interactive process between a reader and the text. Reading is a set of skills that involves making sense and deriving meaning from the printed word. ${ }^{7}$ As a result, a writer can communicate with a reader trough a text and also reading is an interactive process between the reader and a text.

Reading is an essential skill for learners of English a second language. ${ }^{8}$ For most of these learners it is the most important skill to master in order to ensure success not only in learning English, but also in learning in any content class where reading in english is required.

[^3]With strengthened reading skills, learners will make greater progress and development in all other areas of learning. Therefore, reading is fluent process of reader combining information from a text or passage and their own background knowledge, in bringing meaning to getting meaning from printed or written material.

From the statements above, it can be concluded that reading is an interactive process between the reader and the text in order to gain an understanding of a written text and also a process to convey the message or combining information from a text and their background knowledge to build meaning for what they have read.

## b. Types of reading

There are some types of reading, they are: ${ }^{9}$

1. Choral reading

Even though choral reading is relatively uncommon in modern language class, this type of reading is still important in improving learners' pronunciation. Working in groups will make language learners feel confident to pronounce words in foreign accent and practice is really recommended in this method.
2. Silent reading

Silent reading can begin with reading aloud by the teacher. The teacher's reading is a model in accuracy and expressiveness. It is thought that the great amount of interest in reading is secured by a happy combination of reading aloud by learners. To check whether the learner

[^4]understand what they have read, the teacher can test them by giving questions based on the text, by translation or by summarizing text.
3. Intensive Reading

Intensive reading lesson may proceed as follows:

1) While the books are closed, the students listen to the teacher.
2) The new word, phrase, and idioms are written on the board.
3) They are pronounced and used in original sentences.
4) The students open their books and the teacher reads the first part of the selection aloud.
5) The selection is now read by the class, alternating silent and oral reading.
6) The selection my now be summary in their mother tongue or in the foreign language.
4. Extensive reading

Extensive reading is silent reading but done outside of class. In order for language learners to have fewer problems in extensive reading, the teacher should explain first difficult passages or new words.
5. Supplementary Reading

Supplementary reading is also done out of class. Language learners are free to choose reading material. Reading material may consist of newspaper, bulletins or magazines in the target language.

Besides, H. Douglas Brown stated that there are types of reading comprehension; they are developmental reading, functional reading and reactional reading. The further explanation as follows: ${ }^{10}$

## 1. Perceptive

Perceptive reading task involve attending to the components of larger stretches of discourse; letters, words,

[^5]punctuation, and other graphemic symbols. Bottom-up processing is implied.
2. Selective

This category is largely an artifact of assessment format. On order to ascertain one's reading recognition of lexical, grammatical, of discourse features of language within a very short stretch of language, certain typical task are used; picture-cued tasks, matching, true /false, multiple choice, etc. stimuli include sentences, brief paragraphs, and simple charts and graphs. Brief responses are intended as well. A combination of bottom-up and top-down processing may be used.
3. Interactive

Include among interactive reading types are stretches of language of several paragraph to one page or more in which the reader must, in a psycholinguistic sense, interact with the text. That is, a process of negotiating meaning; the reader brings to the text a set of schemata for understanding it, and in take is the product of that interaction. Typical genres that lend themselves to interactive reading are anecdotes, short narratives and description excerpts from longer texts, questionnaires, memos, announcements, direction, recipes, and the like. The focus of interactive task to identify relevant features (lexical, symbol, grammatical, and discourse) within text of moderately short length with the objective of retaining the information that is processed. Top-down processing is typical of such tasks. Although some instances bottom-up performance may be necessary.
4. Extensive.

Extensive reading, as discussed in this book, applies to texts of more than a page, up to and including professional article, essays, technical reports, short story, and books.

Based on explanation above, it can be concluded that read a recount text is included intensive reading. It caused read a recount text retelling strategy should take the grammatical and structural. It needs for knowing the intonation, vocabulary, stressing for gaining the deep understanding of the text.

## c. The Reading Goals

Same with other skill, reading have goals to develop reading comprehension. The goals of reading are to get and search information include content and meaning of the text. Here some goals of reading such as: ${ }^{11}$

1) Reading for identifying important information/ for detail or facts.
2) Reading for main ideas.
3) Reading sequence or organization.
4) Reading for inference.
5) Reading to classify.
6) Reading to evaluate.
7) Reading to compare or contrast.

The other goals of reading, they are;

1) To obtain information for some purposes or because we are curious about some topic.
2) To obtain instruction on how to perform some task for our work or daily life (examples, knowing how an appliance works).
3) To act in a play, play a game, play a puzzle .

[^6]4) To keep touch with friends by correspondence or to understand business letters.
5) To know when or where something will take place or what is available
6) To know what is happened (as reported in newspaper, magazine, reports, etc). ${ }^{12}$

So, the main goals of reading are to get and find information include content and meaning of the text based on the purpose.

## d. Level of Reading Comprehension

Reading comprehension does not only know what text is about, but reading comprehension demands the students to have deep understanding about all of the text. Moreover, the comprehension of text involves the knowledge of vocabulary, structure, and also situation or condition in which language used.

Burns et.al in Muhammad Faisal Situmorang's journal states that reading comprehension is divided into four categories: literal reading, interpretive reading, critical reading, and creative reading.

1. Literal comprehension

Reading for literal comprehension acquiring information that is stated directly in a selection. In literal reading, the main ideas are directly stated in the text. The reader needs only to understand exactly what is stated to receive the author's literal message. Literal comprehension is generally

[^7]accepted as the most simple or basic comprehension skill and one that requires little thinking and reasoning. Recognizing sated main ideas details, causes, effect and sequences as the basis and understanding of vocabulary, sentences meaning, and paragraph meaning is important.
2. Interpretation

Interpretive reading identifies the way to read between the lines of making inferences. This is the process of deriving ideas that implied rather than directly stated. Skill for this level of comprehension includes:

1) finding main ideas of passage in which main ideas are not directly sated
2) finding cause and effect relationship when they are not directly stated
3) Determining referents of pronouns
4) Determining referents of adverbs
5) Inferring omitted words
6) Detecting moods
7) Detecting author's purpose in writing
8) Drawing conclusion
3. Critical Reading

Critical comprehension is evaluating written material, comparing the ideas discovered in the material with known standards and drawing conclusions about their accuracy, appropriateness and timeliness. When the reader read critically, they evaluate what is read. The critical reader must be an active reader, questioning, searching for facts and suspending judgment until he or she considered all of material. They examine critically the thoughts of the author, which have been identified through the lower level of comprehension and judge their validity or worth.
4. Creative Reading

In creative reading, the reader must be able to think and to use their imaginations. Creative reading going beyond what the author has written, applying the ideas from the text to new situations and recombining the author's ideas with other ideas to form new concepts or to expand old ones. The reader must understand cause- effect relationship in a text although it is not stated directly. Through creative
reading, the reader creates something new ideas, the solution to a problem, a new way of looking at something from the ideas gleaned from the text. ${ }^{13}$

In other, Umatul Mahmudah thesis' stated that there are fours level of comprehension they are; conceptual meaning, contextual meaning, pragmatic meaning, and propositional meaning.

1. In the retelling process, the students practice all level of comprehension. In the conceptual meaning of level comprehension, the students decoded the text literally. In this level can makes the students requires the identification, recall ideas and information.
2. Contextual or interpretative meaning. In this level, the students did not interpret the meaning of that information. The students can be understood from the context of the text.
3. Pragmatic meaning. In this level, the student generates as a result of interaction the text.
4. Propositional meaning. In this level, the students think about the information and ideas in the text to their opinion, relate it in to their schemata, the students indentify important information,

[^8]interpret the meaning of that information and then think about and ideas in the text to their own opinion and ideas. ${ }^{14}$

Based on explanation above, it can be concluded that there are four levels of comprehension, they are literal comprehension, interpretation comprehension, and critical reading and the last is creative thinking.

## e. Definition of Comprehension

Comprehension is the active process of constructing meaning from text; it involves accessing previous knowledge, understanding vocabulary and concepts, making inferences, and linking key ideas. Without comprehension, there would be no purpose to reading words. ${ }^{15}$ The aim of reading is comprehension. ${ }^{16}$ Comprehension is essential to successful reading, for success comprehend the reader must use cognitive and meta cognitive skills, cognition can be defined as thinking give and met cognitive skill. ${ }^{17}$ Comprehension is the ability of readers to get meaning from text. Comprehension is the active process of constructing meaning from text; it involves accessing

[^9]previous knowledge, understanding vocabulary and concepts, making inferences and linking key ideas.

Comprehension is what entices the reader to continue the reading. So, comprehension is the ability of reader to comprehend the meaning of the text. In addition, comprehension is an understanding of written or spoken language through some type of alternation of the material before answering a question.

## f. Reading comprehension

Reading comprehension is interaction between thought and language and bases evaluation of success in comprehension on the extend the reader's reconstructed message agrees with the writers intended massage. ${ }^{18}$ In the word, Reading comprehension is the ability to understanding information presented in written form.

In addition, Jeremy Harmer states "reading comprehension is not stopping for every word, not analyzing everything that the reader or speaker includes in the text". ${ }^{19}$ It means reading comprehension is the process to understand the meaning of the text by the reader.

From explanation above, it can be concluded that reading comprehension is to understand a written text containing information

[^10]to find what he or she wants to know and to get the information of what he or she needs. In can also be conclude that, reading comprehension is active process in which readers try to construct meanings by using any information from a text, evaluate the information, and then compare the information with their background knowledge.

## 2. Recount Text

## a. Definition of Recount text

Recount text is the process of giving information by text, to retell events for the purpose of information or entertaining. Recount text is a text that telling the reader about one story, action or activity. ${ }^{20}$ Pardiyono says that recount text is the type of text can be simply defined as a text that is create with the purpose to inform about the activities in the past. ${ }^{21}$ Moreover Sanggam Siahaan stated a recount is a type of spoken or written text that deals with past experience. The function is to retell some events that happened in the past for certain purposes; to inform or top entertain the listeners or readers. ${ }^{22}$ Thus, recount text is a text which functions to retell an event in chronological order.

[^11]Based on the definition above, the researcher concludes that recount text is the type of text which retell about events, experience, or what happened in the past time to inform the people about that.

## b. The Structural Element of Recount Text

According to Ottong Setiawan Djuhrie, there are three element of recount text and each element has some function. The function of each element will be explained as the following: ${ }^{23}$

## 1. Orientation

Orientation consist of opening, introduction the participant, time and the place. Orientation refers to part of the text which gives setting or introducing. The part will be guide the reader to make guessing of the content or form of the text which is read. It means that after the reader read an orientation of the text, the reader can guest the content of the text.
2. Event

An event is a part of recount text that contains sequences of phenomenon or tells what happened in the story.
3. Re-Orientation

Re-Orientation is the last structure of recount text. Reorientation contains optional closure of the event in the text. Reorientation refers to the part of the text that gives indication that

[^12]the event in the text have finished. Re-.orientation contains the brief conclusion of the record events. The conclusion of reorientation is closing or finishing of the story.

Next, Pardiyono the structural element of recount text consist of Orientation, Record of events, and Re-orientation and they are have each function the function of each elements will be explained as the following table: ${ }^{24}$

Table 1
Text Element/ Generic Structure of Recount text

| Text Element | Funtion |
| :---: | :---: |
| Orientation | - To make people interested <br> - To show the past activities or event that will be informed to the readers <br> - To provocation the reader to know the detail information. |
| Record of events | - To explain the chronological of past activities or event. |
| Re-Orientation | - To express the personal attitude about activities or events in the record of events <br> - To conclude the story |

[^13]Based on the explanation above, there are some generic structure of recount text they are, orientation, events and reorientation.

## c. The Language Features of Recount Text

Otong Setiawan the Djuhrie stated that there are eight language features of reacount text, they are : ${ }^{25}$

1) Focus on specific
2) Participants Use of material
3) Processes Circumstances of time and place
4) Use the past tense
5) Focus on temporal
6) Sequence

Pardiyono stated that there are grammatical patterns is used in recount text. They are: ${ }^{26}$

1) Using of predicate followed by past tense, past perfect, and past continuous tense.
2) Using verb of doing, such as; went, took, got, saw, ect.
3) Using of adjective to show the personal attitude, such as; it was, wonderful, it was fun, we had a good time, etc.

[^14]4) Using sequence markers, such as; first, second, third, etc or next, after that, finally

According to Gerot \& Wignel (1995, p.154) language features of recount text, they are:

1) Specific participants.
(e.g.: David, we, his)
2) The use of material process or verb.
( e.g.: went, spent, played)
3) The use of past tenses.
(e.g.: we went for a trip to the zoo)
4) Circumstance of time and place
(e.g.: yesterday, Bali etc.)

## d. Example of Recount Text

There is the example of recount text; ${ }^{27}$. The example of recount text it can be seen in the table below;

## Table 2

## Example of Recount text

| My Adolescence |  |
| :--- | :--- |
| Orientation | I had my adolescence when I was thirteen. |
|  |  |

[^15]| Events | It started with acne that showed up on my face. It was <br> very annoying. It lowered my self-esteem and it was <br> embarrassed to come out of my house and play with <br> friends. <br> Fortunately, my Mom gave me a good medicine. In <br> three weeks, the acnes started to vanish although those <br> showed some black spots in my face. |
| :--- | :--- |
| Re-Orientation | That was my bad experience with adolescence, though <br> there were still lots of good experience too. |

## e. Reading Assessment

Reading assessment is very necessary in reading skill because it can be use to know whether the students' reading comprehension good or not. One of the most important aspects in the teaching of reading by using Retelling is to be able to test and measure students' understanding of the intent and purpose of the text given in class.

In teaching reading comprehension, assessment is aimed to measure how far the students comprehend texts. Types of reading assessment are multiple choice, matching tasks, editing tasks, picture-
cued tasks, gap-filling tasks ${ }^{28}$. 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. ${ }^{29}$ Only one of which is correct, the marking process is totally objective because the marker is not permitted to the exercise judgment when marking the candidate's answer, agreement has already been reached as to the correct answer to the each item.

Assessmet require planning and organizatiion. Assessment is a tool to measure how far the student ability and comprehension of the material. In assessing reading comprehension, there are some indicators: ${ }^{30}$

Table 3
Table of Indocators of reading comprhension

| No | Indicators of reading comprehension |
| :--- | :--- |
| 1 | Identifying topic sentence |
| 2 | Identifying main idea |
| 3 | Identfying imfortant information |
| 4 | Identfying Vocabulary |

[^16]| 5 | Identfying conclusion |
| :--- | :--- |

The most common assessment of reading is usually identically with test, involves asking the students to read passage of text in appropriately level, and then asking some explicit, detailed questions about the content of the text. In relation to this research, the students reading comprehension will be measure through administering a series of testing in the form of multiple choice.

## 3. The Description of Retelling Strategy

## a. Definition of Retelling strategy

According to Morrow et.al, states that retelling is a generative task that requires the readers to construct a personal rendition of the text by making inferences based on original text and prior knowledge. ${ }^{31}$ According to Wittrock retelling is strategy that fit the model of generative learning. ${ }^{32}$ In that retelling engages the reader in relating the parts of the text to one another (integration of information) and to their own back ground of experience (personalization of information).

[^17]This strategy assume to make the students rethinking what they read by their own written form. ${ }^{33}$ Retell to tell a story again in a different way or in a different language. ${ }^{34}$ Retelling is treatment to restate the necessary information of original text, to relate with the readers' knowledge and what they already know, and reconstruct the text without looking at the original text what they read.

In this case, retelling is the process in reconstructing the meaning without using the word or sentence of the original text. Retelling help children rethink their way through a text, thereby enhancing their understanding. Retelling does not mean memorizing it means recounting the story in the child's own words.

Retelling is made more difficult by the length of the text and the number of events presented. Retelling stories encourages children to use their imagination, expand their ideas, and create visual images as they transfer the plot to a new setting, include different characters, or add new voices. It can be inferred that retelling can build the reader' comprehension during and after reading.

Based on the explanation above the researcher can be concluded, retelling strategy is the way to re-tell again, rethink or

[^18]reconstruct the meaning of text or story what students have read from a text.

## b. The characteristic of retelling

Burns et.al in Han Jung ah's journal states that there are some characteristics of retelling:
1). Retelling as an comprehension strategy

Retelling is a procedure that enables a student to play a large and active role in reconstructing stories. Usually retelling involves interactive discussion with the teacher, peer or groups and this discussion helps learners to comprehend and recall the discourse they read or listened. As an assessment strategy, "retelling encourages readers to attend to the meaning of the text, reinforces elements of story structure, such as characters, setting and plot, requires readers to distinguish between key ideas and supporting details, encourages communication and oral language development, demonstrates what the students understands and remembers about the story, reveals what the students considers important about the story, indicates what students know about story structure and literary language and demonstrate the students' vocabulary and oral language development. 2). Retelling as an assessment tool

As an assessment strategy, retelling demonstrates what the student understands and remembers about the story; reveals what
student considers important about the story; indicates what students know about story structure and literary language, i.e. their organizing and summarizing of the story; and demonstrates the students' vocabulary and oral language development.

Retelling should be used as an assessment tool only after students have been taught how to retell a story and what is expected of them. some tips for using retelling as assessment tool:
i. Teach students how to retell and what the expectations are before reading.
ii. Scaffold students with prompts or questions if necessary
iii. Allow students to revisit the text as they retell
iv. Ensure that the texts are not beyond the students' reading level, unless the retelling is from a read-aloud.
v. Use props, such as puppets or pictures, to aid retelling.

## 3). Retelling as a social interaction process

During the teacher-directed reading instruction, students' verbalizations about what they recall from text is typically limited to responding to questions, which are posed by teachers and require specific and text-based responses usually at the literal level. Different from the teacher-directed reading instruction, when children retell a story, they have to transform a text into their own words using listening, speaking, reading and writing and possibly drawing. These
characteristics make the retelling an engaging, interactive, and productive strategy.

The whole retelling procedure can be regarded as active since the retelling, "when used in all of its forms, requires social engagement as the participants are involved in reading, writing, talking and listening" . In other words, in the retelling procedure, students are more relaxed and their channels of communication are open. They can interact socially and collaboratively with their teacher, their peer, or with their partners and the degree of interaction is much higher than in usual reading classes. ${ }^{35}$ So, retelling can build the readers' comprehension during and after reading.

Based on statement above it can be concluded that there many characteristic of retelling strategy such as; retelling as an comprehension strategy, retelling as an asssessment strategy, and retelling as an a social interaction process.

## c. The procedure of Using Retelling Strategy

In implementation retelling strategy there are some steps to do in retelling, they are: ${ }^{36}$
1). Grasp the main idea of the story

[^19]In the retelling a passage, the students have to grasp the main idea to know about what the passage tell.
2). Describe the main events with accuracy

The students have to describe the gist of every paragraph to have description of all the contents.
3). Tell the story sequentially (with a beginning, a middle, and an end) In this case, the students convey all the stories since the beginning till the end.
4). Use vocabulary or phrases from the text.

To make connection, the students have to use vocabulary or phrase from the text.
5). Activate prior knowledge to enhance understanding

Critical thinking is boosted by connecting what is read into knowledge the reader has. Thus, the readers have to activate prior knowledge to enhance their understanding.
6). Aware of the characters and settings

To have more understanding of the passage, the readers add the details and supporting details.
7). Use details to enhance the retelling

In the retelling the details help the listeners have detail description.

Based on above procedures of retelling strategy, the students and the teacher were active when teaching and learning processing.

## d. The Purposes of Retelling Strategy

Every strategy in learning has purpose and the purpose of retelling strategy is to judge whether students understand the text, not just what they remember from the first reading. ${ }^{37}$ If readers have been focusing on decoding during the first reading, they may need to reread certain parts to refresh their memories.

## e. Advantages of Retelling

According to Yahla states that retelling has advantages that is for students/readers and for teacher. They are: ${ }^{38}$

## Table 4

| For students | For teacher |
| :--- | :--- |
| • The students can develop | • It helps teachers to attend |
| concentration while reading or | to the level of retention |
| listening to a specific text because | and understanding |
| they already know that they will |  |
| achieved by the student. <br> reconstruct or retell the text. | • It reveals students' ability |
| - Retelling develops mental abilities |  |
| to recognize the structure |  |

[^20]

Based on explanation above, retelling are good for the teacher if they applied it. They more be aware to understanding the students' need. The teacher guide the students ability to recognize content of the text and the teacher can appriciate the students achievement.

## 4. Conventional Method

## a. Definition of Conventional Method

Conventional or traditional teaching is concerned with the teacher being the controller of the learning environment. Power and responsibility are held by the teacher and they play the role of instructor and decision maker they regard students as having 'knowledge holes' that need to be filled with information. According to Hudson that "conventional method is a method that used by the teachers based on mutual agreement in a school. In addition, it uses traditional way in teaching and learning process. In short the traditional teacher views that it is the teacher that causes learning to occur.

## b. Classification of Conventional Method

As known that there are many kinds of teaching method that can be applied by teacher. One of the teaching methods is conventional or traditional method. Conventional method can be divided in some kinds. They are: lecturer method, guided discussion,
demonstration and "cookbook" lab. ${ }^{39}$ But the most traditional in teaching method especially in MTsN Batang Angkola is Lecturer method.

Lecturer method is traditional method because this method had been use long since is as an oral communication tool between teacher and students in interaction educative. Moreover in educative and traditional teaching it is like in rural that have weakness in learning facilities and teacher. ${ }^{40}$ According to Abu Ahmadi, there are some the strength and weakness of this method.

1) The Strength
a) In short time teacher is able to convoy the material as many as possible.
b) The organization of class is simpler, it is not important to group of students like other method.
c) Teacher is as lecturer goes through good, so it can make the spirit and creative.
d) Flexible.
2) The Weakness
a) Teacher is difficult to know the student's comprehension with the material had been given.
b) Sometimes teacher wants to convoy the material as many as possible until it is characteristic of pump.
c) Students are passive.
d) If teacher do not pay attention the students' aspect psychology, may be the lecturer will be boring. ${ }^{41}$
[^21]So, it can definition that the strangeness of this method is teacher has a Freeh and in organizing the time allocate and facilities of learning that done for finishing demand of syllabus whereas the weakness of this method is that students is looking passive when they follow the learning process. The interactions of learning reflect a one direction communication. Students are depend at the material what presented by teacher. So the teacher' ability in learning is just demand a material what taught in syllabus.

## c. The Steps of Lecturer Method

There are some steps of lecturer method generally:

1) Preparation (create the learning condition to students)
2) Implementation (teacher convoys the material then give opportunity to students for connecting and comparing the material of lecture that had accepted through catechizing)
3) Evaluation (give a test to students for looking students' comprehension about material that had learned). ${ }^{42}$

There are some steps of lecturer method in MTsN Batang Angkola:

1) Explain the subject matter
2) Identify the difficult word
3) Ordering the students translate in target language.
4) Ordering the students to memorize.

## d. The Principle of Conventional Teaching

[^22]There are some principles of teaching conventional that to be approach, it can be applied in teaching process.

1) There is not theory that formulated to discuss the learning activity in traditional education system.
2) Motivation is based of punishment, reward of prize and rivalry
3) Study with memorizing and save the information without inscription
4) The behavioural psychology has the clear significant
5) The cognitive psychology does not give the significant
6) In general, the learning process in traditional education system is not generated by the certain theory. ${ }^{43}$

From explanation above, the conventional method is traditional teaching method that often applied by the teacher. One of conventional teaching is lecturer method which a teaching style that is used for conveying information about some subject. The researcher define that conventional method is the way that is used by the teachers in teaching a material based on the agreement of the teacher at school.

## B. Review of Related Findings

Actually, there are some related findings to this research:
First, Dedy Khisbulloh ${ }^{44}$, have found that there are significant after the students got reading instruction retelling technique. It can be seen from the comparison between the T-calculation of all the score of cycle I, cycle II, and

[^23]cycle III. In the cycle I, the T-calculation is 17.69 cycle II is 16.4 , and cycle III is 20.9. In addition the Mean improves in every cycle. The mean of posttest of cycle I is 64.96 that is different from the mean of pre-test of cycle I, 44.48. The mean of pre-test of cycle II is 53.52 which improves in the post test becomes 76.32. The mean of cycle III also improves, the result shows that the mean of pre-test of cycle III is 62.88 and that improves in the post test of cycle III to be 87.6 it can be concluded that the students' reading comprehension can improve through retelling technique.

The other researcher is Umatul Mahmudah's ${ }^{45}$, have found that are the students' reading comprehension can improve through retelling. It was showed by the difference of cycle I and cycle II. The students got 67.64 on the first cycle and the students got 80.58 on the second cycle. Based on the statement, it can be concluded that by using retelling was an effective strategy in use to improve reading comprehension of the students.

Next, Anita's ${ }^{46}$, have found that are using read, cover, remember, retelling strategy is good category. It was showed by the result analyzing data of the test was compared to $t$-table at significant level 5\% (2.00) and at the significant level $1 \%$ (2.65).( $\left.\mathrm{t}_{\text {observation }}\right) \mathrm{t}_{\mathrm{o}}$ was higher than $\mathrm{t}_{\text {table }}$. In conclusion,

[^24]null hypothesis $\left(\mathrm{H}_{\mathrm{a}}\right)$ was accepted which showed $2.00<3.911>2.65$. in other word, there was significant effect of using the read, cover, remmeber, retell strategy towards reading comprhension of the second year students at Senior Hight School Sukaramai Tapung Hulu Kampar Regency.

Then, Darwissyah Irwan $\mathrm{D}^{47}$, have found that are positive implementation of using retelling story towards students' speaking ability in addition, the implementation of retelling stories can improve students' speaking ability. The result of hypothesis testing t-test $=3.24$ Based on the testing criterion is to $\geq$ ttable for significant at level $5 \%$ : ttable $=2.00$. So, it can be said that there is an implementation of using retelling stories towards students' speaking ability.

Based on above explanation, the researcher concluded that many techniques and strategy can increase the students' reading comprehension skill. In this case, the researcher will do a research by retelling strategy to increase the students' reading comprehension in recount text. The researcher hopes this research this research can complete and contribute the previous finding. The researcher conducted the research through the title The Effect of Using Retelling Strategy On Students' Reading Comprehension at VIII Grade MTs N Batang Angkola Tapanuli Selatan.

[^25]
## C. Conceptual Framework

Actually, reading is important in getting information and knowledge. Therefore, students are expected to have a good comprehension in their English reading comprehension so that they can absorb the information and the knowledge through reading activity. The suitable technique is very important to understand reading comprehension. So the teacher must teach by using suitable technique because it can make the students more interest in learning process. Retelling strategy is a technique that can be applied in teaching reading comprehension to increase their comprehension in reading recount text. So, the researcher describes the conceptual framework as follow;


Figure 1: conceptual framework

## D. Hypothesis

Hypothesis is the provisional result of the research. The hypotheses of this research were:

1. There was the significant effect of using Retelling Strategy on students' reading reading comprehension at VIII grade MTs N Batang Angkola Tapanuli Selatan $\left(\mathrm{H}_{\mathrm{a}}\right) . \mu_{1}>\mu_{2}$.
2. There was no significant effect of using Retelling Strategy on students' reading comprehension at VIII grade of MTs N Batang Angkola Tapanuli Selatan $\left(\mathrm{H}_{\mathrm{a}}\right) . \mu_{1}>\mu_{2}$.

## CHAPTER III

## RESEARCH METHODOLOGY

## A. Place and Time of the Research

This research will be done at MTsN Batang Angkola. It was located at Jl. Mandailing KM. 23.5 Desa Tolang Julu, Kec Sayurmatinggi, Kab. Tapanuli Selatan. The subject of the research was at the grade VIII students of MTsN Batang Angkola 2018 academic years. The process of the research was from October 2018 until May 2019.

## B. Research Design

The searcher uses two classes in taught by using retelling strategy in experimental class, and in other class taught by conventional method and called control class.

Table 5
Research Design

| Class | Pre-test | Treatment | Post-Test |
| :--- | :--- | :--- | :--- |
| (VIII-1) <br> Experimental <br> Class | $\sqrt{ }$ | $\sqrt{2}$ | $\sqrt{2}$ |
| (VIII-2) <br> Control <br> Class | $\sqrt{ }$ | X |  |

## C. Population and Sample

## 1. Population

The population of the research is VIII grade MTsN Batang Angkola. It's consist of 6 classes with 204 students. It can be seen from in the following table:

Table 6
The population of the grade VIII students' of MTs N Batang Angkola

| NO | CLASS | NUMBER |
| :--- | :--- | :---: |
| 1. | VIII-1 | 44 Person |
| 2. | VIII-2 | 31 Person |
| 3. | VIII-3 | 33 Person |
| 4. | VIII-4 | 32 Person |
| 5. | VIII-5 | 33 Person |
| 6. | VIII-6 | 31 Person |
| Total Population | 204 Person |  |

## 2. Sample

The research chose VIII-2 consist 31 students and VIII-3 consist 33 students. So, the total samples of the research are 64 Students.

To determine appropriate sample of population is tested with normality and homogeneity test.
a. Normality test

Normality test is used to know whether the data of research is normal or not. To know the normality the researcher use, Chi-quadrate formula. The formula as follow: ${ }^{1}$

$$
x^{2}=\sum\left(\frac{f_{o}-f_{h}}{f_{h}}\right)
$$

Where:
$x^{2}=$ Chi-Quadrate
$f_{o}=$ Frequency is gotten from the sample/result of observation (questioner).
$\mathrm{f}_{\mathrm{h}}=$ Frequency is gotten from the sample as image from frequency is hoped from the population.

In normality test;
$\mathrm{H}_{\mathrm{a}}$ : Data is normal
$\mathrm{H}_{\mathrm{o}}$ : Data is not normal
If $x_{\text {count }}>x_{\text {table, }}$, so hypothesis $\left(H_{a}\right)$ is accepted
If $\mathrm{x}_{\text {count }}<\mathrm{X}_{\text {table }}$, hypothesis is rejected.
To calculate the result of Chi-Quadrate, it is used significant level $5 \%(0,05)$ and degree of freedom as big as

[^26]total of frequency is lessened $3(\mathrm{dk}=\mathrm{k}-3)$. If result $\mathrm{x}^{2}$ count $<\mathrm{x}^{2}$ table. So, it can be concluded that data is distributed normal.
b. Homogeneity test

Homogeneity test is used to know whether control class and experimental class have the same variant or not. If both classes are same, it can be called homogenous. To find the homogeneity, the researcher use Harley test. The formula is as follow: ${ }^{2}$
$\mathbf{F}=\frac{\text { The biggest variant }}{\text { The smallest variant }}$ $\mathbf{n}_{\mathbf{1}}=$ Total of the data that bigger variant
$\mathbf{n}_{\mathbf{2}}=$ Total of the data smaller variant

The hypothesis is:
$\mathrm{H}_{\mathrm{a}}$ : The class are homogenous
$\mathrm{H}_{\mathrm{o}}$ : The class are not homogenous

If $\mathrm{F}_{\text {count }}>\mathrm{F}_{\text {table, }}$ hypothesis $\left(\mathrm{h}_{\mathrm{a}}\right)$ is accepted.

If $\mathrm{F}_{\text {count }}<\mathrm{F}_{\text {table, }}$, hypothesis is rejected

Hypotheses is accepted if $F_{(\text {count })} \leq F_{(\text {table })}$

Hypotheses is rejected if $F_{(\text {count })} \geq F_{(\text {table })}$

[^27]Hypothesis is rejected if $\mathrm{F} \leq \mathrm{F}_{2}^{1} \mathrm{a}\left(\mathrm{n}_{1-1}\right)\left(1=\mathrm{n}_{2}-1\right)$, while if $\quad \mathrm{F}_{\text {count }}>F_{\text {table }}$ hypothesis is accepted. It determined with significant level 5\% (0.05) and dk numerator was ( $\mathrm{n}_{1}-1$ ), while dk detominators is $\left(\mathrm{n}_{2}-1\right)$.

Based on above explanation, the researcher gave the pre-test to know whether the samples are homogenous and normal or not.

## D. Instrument of Collecting Data

The test is used in this research is multiple choice test consists of four option $\mathrm{a}, \mathrm{b}, \mathrm{c}$, and d . The researcher used students as participant. In doing test, the researcher as an observer then controls all the students when doing the test and the students involve this research. After validity, the test consists of 40 questions. 20 questions are for pre-test and 20 questions are for post-test. This test had been given to experimental and control class. To find out the score for each item. The maximum score of the test is 100 .

There are some indicators that are used by researcher to measure students' reading comprehension in reading recount text. In can be seen from the table below;

Table 7
The indicators of Reading comprehension in Pre-test after Validity

| No | Indicators Pre-test | Number of items | Items | Total <br> score |
| :---: | :---: | :---: | :---: | :---: |
| 1 | Able to identifying topic <br> sentence | $1,7,9,18$ | 4 | 20 |
| 2 | Able to identifying main <br> idea | $4,10,14,19$ | 4 | 20 |
| 3 | Able to identifying <br> specific important <br> information | $2,5,12,16$ | 4 | 20 |
| 4 | Able to identifying <br> meaning (vocabulary) | $3,8,13,17$ | 4 | 20 |
| 5 | $6,11,15,20$ | 4 | 20 |  |
| Able to identify <br> conclusion of text | TOTAL | 20 | 100 |  |

Table 8
The indicators of Reading comprehension in Post-test after Validity

| No | Indicators Post-test | Number of items | Items | Total <br> score |
| :--- | :--- | :--- | :--- | :--- |
| 1 | Able to identifying topic <br> sentence | $1,5,10,16$ | 4 | 20 |
| 2 | Able to identifying main <br> idea | $4,8,11,17$ | 4 | 20 |
| 3 | Able to identifying <br> specific important <br> information identifying | $2,6,13,18$ | 4 | 20 |
| 4 | Able to idener <br> meaning (vocabulary) | $7,14,20$ | 4 | 20 |
| 5 | Able to identify <br> conclusion of text | $7,15,19$ | 4 | 20 |
| TOTAL |  |  |  |  |

## E. Validity and Reliability of Instrument

## 1. Validity

In this research, researcher used multiple choice to test students' reading comprehension in recount text. To make the test become valid so the researcher applied content validity and item validity to find out the validity of instrument. Content validity is used to know whether the test valid or not by using to expert judgment such as English teacher. The test had been consisted of 50 questions of multiple choice questions. It had been divided into two groups: 25 for pre-test and 25 for post-test.

To get the validity of the each question had used to list $r$ biserial with $r_{t}$ in $5 \%$ significant: 0.361 and $1 \%$ significant: 0.449 . So, if $r_{\text {count }}>r_{\text {table }}$ the test is classified valid.

To get the validity of the test, the formula of $r$ pointbiserial can be used as follow:

$$
R_{p b i}=\frac{M_{p-M_{t}}}{S D_{t}} \sqrt{\frac{p}{q}}
$$

Where:
$\mathrm{r}_{\mathrm{pbi}}$ : coefficient item validity
$\mathrm{M}_{\mathrm{p}}$ : mean score
$\mathrm{M}_{\mathrm{t}} \quad$ : mean score of the total score
$\mathrm{SD}_{\mathrm{t}}$ : 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. ${ }^{3}$

## 2. Reliability

To get the reliability of the test, suharsimi Arikunto said that to obtain the reliability of the test, the researcher uses formula K-R 20. The formula: ${ }^{4}$

$$
\mathrm{R}_{11}=\left(\frac{n}{n-1}\right)\left(\frac{s_{t^{2}}-\sum p q}{s_{t^{2}}}\right)
$$

Where:
$\mathrm{R}_{11}$ : Reliability of the Instrument
N : Total of Question
$\mathrm{St}^{2}$ :Variants Total
$p:$ Proporsi Subject who is right Answer(1)

## N

$q: \underline{\text { Proporsi Subject who is Wrong Answer (0) }}$

## N

Reliability is a good character of the test that refers to the consistency of the measurement. The test is reliable if $\mathrm{r}_{\text {count }}>\mathrm{r}_{\text {table }}$ by using formulation KR-20.

[^28]
## F. Procedure of the Research

## 1. Pre-test

It is a test that given before doing the treatment to the students. The function of the pre-test is to find the mean score of retelling strategy class and conventional strategy class before the research give the treatment to the experimental group. In this case, the researcher used some steps. They are:

1. The researcher prepared the test that would be filled by the students. It consisted of 20 questions.
2. The researcher distributed the test paper to both class; experiment and control class.
3. The researcher explained what the students need to do.
4. The researcher gave the times to the students to answer the questions.
5. The researcher collected the test paper.
6. The researcher checked the answer and counts the students' score.

## 2. Treatment

In treatment, the researcher did the different way in teaching reading between experimental and control class. Treatment will be given to experimental class by using retelling strategy. The researcher used some steps, they are:

1) The students divided into group then they determine goal and share the task.
2) The researcher building the context for the targeted text which discuss of linguistic features (generic structure and language features) of descriptive text.
3) The researcher presents the text of recount text, about genres, language feature and practice of reading skill.
4) The researcher ordered the students to write another recount text that same with the example model of text by themselves.
5) The researcher ask one group randomly ( next make effort in order to make every group get their chance) to presentation the result of their discussion in front of the class, students from another group watch, think and compare the result of the presentation and give response.

## 3. Post-test

After giving treatment, researcher give the post-test to control and experimental class. It is used to know the difference score of experiment and control class and the effect of treatment, whether it has an effect or not. The researcher used some steps in giving posttest. They are:

1) The researcher prepared the test that will be filled by the students. It consists of 20 questions.
2) The researcher distributed the test paper to both class; experiment and control class.
3) The researcher explained what the students to do.
4) Giving times, researcher give times to students answer the questions.
5) The researcher collected the test paper.
6) The researcher checked the answer and counts the students' score.

## G. Technique of Analyzing Data

Technique analyzing data is used to find out the ability of two classes, namely; control and experimental classes. In this research, the researcher used the technique of data analysis as follow:

## 1. Scoring Technique

To know the score, the researcher use the steps were:
a) Total maximal score is 100
b) True answer would be given 4 score and false answer not give the score. Total score $5 \times 20=100$
c) Maximal score $=\frac{\text { total of true answer }}{\text { total of test }}$

## 2. Requirement test

a. Normality test

To know the normality, the researcher use ChiQuadrate formula. The formula is as follow:

$$
x^{2}=\sum\left(\frac{f_{o}-f_{h}}{f_{h}}\right)
$$

Where:
$\mathrm{x}^{2}=$ Chi-Quadrate
$\mathrm{f}_{\mathrm{o}}=$ Frequency is gotten from the sample/result of observation (questioner).
$\mathrm{f}_{\mathrm{h}}=$ Frequency is gotten from the sample as image from frequency is hoped from the population.

To calculate the result of Chi-Quadrate, it used significant level $5 \%(0,05)$ and degree of freedom as big as total of frequency was lessened $3(\mathrm{dk}=\mathrm{k}-3)$. If result $\mathrm{x}^{2}{ }_{\text {count }}<\mathrm{x}^{2}$ table. So, it could be concluded that data was distributed normal.
b. Homogeneity Test

To find the homogeneity, the researcher use Harley test. The formula is as follow:

$$
\mathrm{F}=\frac{\text { the biggest variant }}{\text { the smallest variant }}
$$

Hypotheses is accepted if $F_{(\text {count })} \leq F_{(\text {table })}$

Hypotheses is rejected if $F_{(\text {count })} \geq F_{(\text {table })}$
Hypothesis is rejected if $\mathrm{F} \leq \mathrm{F} \frac{1}{2} a\left(\mathrm{n}_{1-1}\right)\left(1=\mathrm{n}_{2}-1\right)$, while if $\mathrm{F}_{\text {count }}>\mathrm{F}_{\text {table }}$
hypothesis is accepted. It determined with significant level 5\% (0.05) and dk numerator was ( $\mathrm{n}_{1}-1$ ), while dk detominators is $\left(n_{2}-1\right)$.

Hypothesis is:
Ha: Data is homogenous
Ho : Data ia not homogenous
If $\mathrm{F}_{\text {count }}>\mathrm{F}_{\text {table, }}$, hypothesis (Ha) is accepted. If $\mathrm{F}_{\text {count }}<\mathrm{F}$ table, hypothesis is rejected.

## 3. Hypothesis Test

Hypothesis is the provisional result of the research. So, the researcher needs to analyze the data which have been divided into two groups: experiment class and control class.

Before analyze the data to find the hypothesis, the researcher will calculate the normality and homogeneity of the post-test. It is used to know whether the data is normal and homogenous or not. If the data is normal and homogenous, the formula that must be used to test hypothesis is t-test. The formula is as follow: ${ }^{5}$

[^29]$$
T t=\frac{X_{1}-X_{2}}{\sqrt{\left(\frac{\left(n_{1}-1\right) s_{1}^{2}+\left(n_{2}-1\right) s_{2}^{2}}{n_{1}+n_{2}-2}\right)\left(\frac{1}{n_{1}}+\frac{1}{n_{2}}\right)}}
$$

Where:
t : the value which the statistical significant
$\overline{\mathrm{X}_{1}}$ : the average score of the experimental class
$\overline{\mathrm{X}_{2}}$ : the average score of the control class
$\mathrm{s}_{1}{ }^{2}$ : deviation of the experimental class
$\mathrm{s}_{2}{ }^{2}$ : deviation of the control class
$\mathrm{n}_{1}$ : number of experimental
$\mathrm{n}_{2}$ : number of control class.

## CHAPTER IV

## DATA ANALYSIS

As mentioned is earlier chapter, in order to evaluate the effect of using retelling strategy on students' reading comprehension, the researcher has calculated the data using pre-test and post-test. The researcher used the formulation of T-test to test the hypothesis. Next, the researcher described the data as follow:

## A. Description of Data

## 1. Descreption of Data before Using Retelling Strategy

## a. Score of Pre-test Experimental Class

Researcher took class VIII-2 as the experimental class. In pre-test of experimental class, the researcher calculated the result that had been by the students in answering the question (test). The score of pre-test experimental class can be seen in the following table:

Table 9
The score of Exprimental Class inPre-Test

| Total | 1755 |
| :---: | :---: |
| Highest score | 80 |
| Lowest score | 30 |
| Mean | 58.36 |
| Median | 57.98 |
| Modus | 57.5 |
| Range | 50 |
| Interval | 8 |
| Standard deviation | 12.8 |


| Variants | 163.97 |
| :---: | :---: |

Based on the above table the total score of experiment class in pretest was 1755 , mean was 58.36 standard deviation was 12.8 , varians was 163.97, median was 57.98 , range was 50 , modus was 57.5 , interval was 8 . The researcher got the highest score was 80 and the lowest score was 30 . It can be seen on appendix 19. Then, the computed of the frequency distribution of the students' score of experiment class can be applied into table frequency distribution as follow:

Table 10
Frequency Distribution of Students' Score

| No | Interval | Mid Point | Frequency | Percentages |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1 | $30-37$ | 33 | 3 | $9.68 \%$ |  |  |  |  |
| 2 | $38-45$ | 41 | 4 | $12.9 \%$ |  |  |  |  |
| 3 | $46-53$ | 49 | 4 | $12.9 \%$ |  |  |  |  |
| 4 | $54-61$ | $\mathbf{5 7}$ | 10 | $32.25 \%$ |  |  |  |  |
| 5 | $62-69$ | 65 | 4 | $12.9 \%$ |  |  |  |  |
| 6 | $70-77$ | 73 | 5 | $16.13 \%$ |  |  |  |  |
| 7 | $78-85$ | 81 | 1 | $3.22 \%$ |  |  |  |  |
| $i=8$ |  |  |  |  |  |  | 31 | $100 \%$ |

From the table above, the students' score in class interval between 30 - 37 was 3 students ( $9.68 \%$ ), class interval between $38-45$ was 4 students (12.9 \%), class interval between $46-53$ was 4 students ( $12.9 \%$ ), class interval between $54-61$ was 10 students ( $32.25 \%$ ), class interval between 62

- 69 was 4 students ( $12.9 \%$ ), class interval between $70-77$ was 5 students (16.13\%), and the last $78-85$ was 1 student ( $3.22 \%$ ).

In order to get description of the data clearly and completely, the researcher presents them in histogram on the following figure:


Figure 2 : Description Data of Experimental class in Pre-test...
From the histogram above, the students' score 33 was 3 students, the students' score 41 was 4 students, the students' score 49 was 4 students, the students' score 57 was 10 students, the students' score 65 was 4 students, students' score 73 was 5 , and the last students' score 81 was 1 .

## b. Score of Pre-Test Control Class

In pre-test of control class, the researcher calculated the result that had been gotten by the students in answering the question (test). The score of pre-test control class can be seen in the following table:

Table 11
The Score of Control Class in Pre-test in the following table:

| Total | 1740 |
| :---: | :---: |
| Highest score | 75 |
| Lowest score | 30 |
| Mean | 55.47 |
| Median | 52.95 |
| Modus | 52.46 |
| Range | 45 |
| Interval | 7 |
| Standard deviation | 10.99 |
| Variants | 142.33 |

Based on the above table the total score of experiment class in pre-test was 1740 , mean was 55.47 , standard deviation was 10.99 , variants was 142.33, median was 52.95 ., range was 45 , modus was 52.46 , interval was 7. The researcher got the highest score was 75 and the lowest score was 30. It can be seen on appendix 19. Then, the computed of the frequency distribution of the students' score of control class can be applied into table frequency distribution as follow:

Table 12
Frequency Distribution of Students' Score

| No | Interval | Mid Point | Frequency | Percentages |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1 | $30-36$ | 33 | 3 | $9.09 \%$ |  |  |  |  |
| 2 | $37-43$ | 40 | 4 | $12.12 \%$ |  |  |  |  |
| 3 | $44-50$ | 47 | 7 | $21.21 \%$ |  |  |  |  |
| 4 | $51-57$ | $\mathbf{5 4}$ | 11 | $33.33 \%$ |  |  |  |  |
| 5 | $58-64$ | 61 | 1 | $3.03 \%$ |  |  |  |  |
| 6 | $65-71$ | 68 | 5 | $15.15 \%$ |  |  |  |  |
| 7 | $72-78$ | 75 | 2 | $6.06 \%$ |  |  |  |  |
| $i=7$ |  |  |  |  |  |  | 33 | $100 \%$ |

From the table above, the students' score in class interval between 30 - 36 was 3 students ( $9.09 \%$ ), class interval between $37-43$ was 4 students ( $12.12 \%$ ), class interval between $44-50$ was 7 students ( $21.21 \%$ ), class interval between $51-57$ was 11 students ( $33.33 \%$ ), class interval between $58-64$ was 1 students ( $3.03 \%$ ), class interval between $65-71$ was 5 students ( $15.15 \%$ ), and the last class interval between $72-$ 78 was 2 students ( $6.06 \%$ ).

In order to get description of the data clearly and completely, the researcher presents them in histogram on the following figure:


From the histogram above, the students' score 33 was 3 students, the students' score 40 was 4 students, the students' score 47 was 7 students, the students' score 54 was 11 students, the students' score 61 was 1 students, the students' score 68 was 5 students, and the las students' score 75 was 2 students.

## 2. Description of Data After Using Retelling Strategy

## a. Score of Post-Test Experimental class

In post-test of experimental class, the reseracher calculated the result that had been gotten by the students in answering the question (test) after the researcher did the treatment by using retelling strategy. The score of post-test experimental class can be seen in the followin table:

Table 13
The Score of Experimental Class in Post-test

| Total | 2575 |
| :---: | :---: |
| Highest score | 100 |
| Lowest score | 65 |
| Mean | 87.78 |
| Median | 83.88 |
| Modus | 84.66 |
| Range | 35 |
| Interval | 6 |
| Standard deviation | 9.6 |
| Variants | 57.78 |

Based on the above table the total score of experiment class in posttest was 2575 , mean was 87.78 , standard deviation was 9.6 varians was 57.78 , median was 83.88 , range was 35 , modus was 84.66 , interval was 6 . The researcher got the highest score was 100 and the lowest score was 65 . It can be seen on appendix 20 . Then, the computed of the frequency distribution of the students' score of experiment class can be applied into table frequency distribution as follow:

Table 14
Frequency Distribution of Students' Score

| No | Interval | Mid Point | Frequency | Percentages |
| :---: | :---: | :---: | :---: | :---: |
| 1 | $65-70$ | 67.5 | 3 | $9.68 \%$ |
| 2 | $71-76$ | 73.5 | 3 | $9.68 \%$ |
| 3 | $77-82$ | 79.5 | 7 | $22.59 \%$ |


| 4 | $83-88$ | $\mathbf{8 5 . 5}$ | 11 | $33.33 \%$ |
| :---: | :---: | :---: | :---: | :---: |
| 5 | $89-94$ | 91.5 | 4 | $12.90 \%$ |
| 6 | $95-100$ | 97.5 | 3 | $9.68 \%$ |
| $i=6$ |  |  | 31 | $100 \%$ |

From the table above, the students' score in class interval between 65 - 70 was 3 students $(9.68 \%)$, class interval between $71-76$ was 3 students (9.68 \%), class interval between $77-82$ was 7 students ( 22.59 $\%$ ), class interval between $83-88$ was 11 students ( $33.33 \%$ ), class interval between 89 - 94 was 4 students ( $12.90 \%$ ), and the last class interval between $95-100$ was 3 students ( $9.68 \%$ ).

In order to get description of the data clearly and completely, the researcher presents them in histogram on the following figure:


From the histogram above, the students' score 67.5 was 3 students, the students' score 73.5 was 3 students, the students' score 79.5 was 7 students, the students' score 85.5 was 11 students, the students' score 91.5 was 4 students, and the last the students' score 97.5 was 3 students.

## b. Score of Control Class in Post-test

In post-test of control class, the researcher calculated the result that had been gotten by the students in answering the question (test) after the researcher taught the reading recount text by using conventional strategy. The score of post-test control class can be seen in the following table:

Table 15
The Score of Control Class in Post-test

| Total | 2425 |
| :---: | :---: |
| Highest score | 95 |
| Lowest score | 50 |
| Mean | 73.42 |
| Median | 77.44 |
| Modus | 72.79 |
| Range | 45 |
| Interval | 7 |
| Standard deviation | 10.01 |
| Variants | 85.91 |

Based on the above table the total score of control class in post-test was 2425 , mean was 73.42 , standard deviation was 10.01 , varians was 85.91, median was 77.44 , range was 35 , modus was 72.79 , interval was 6 .

The researcher got the highest score was 95 and the lowest score was 50 . It can be seen on appendix 20 . Then, the computed of the frequency distribution of the students' score of control class can be applied into table frequency distribution as follow:

Table 16
Frequency Distribution of Students' Score

| No | Interval | Mid Point | Frequency | Percentages |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1 | $50-56$ | 53 | 1 | $3.03 \%$ |  |  |  |  |
| 2 | $57-63$ | 60 | 5 | $15.15 \%$ |  |  |  |  |
| 3 | $64-69$ | 67 | 5 | $15.15 \%$ |  |  |  |  |
| 4 | $70-76$ | 73 | 13 | $39.39 \%$ |  |  |  |  |
| 5 | $77-83$ | 80 | 4 | $12.12 \%$ |  |  |  |  |
| 6 | $84-90$ | 89 | 3 | $9.09 \%$ |  |  |  |  |
| 7 | $91-97$ | 94 | 2 | 6.06 |  |  |  |  |
| $i=7$ |  |  |  |  |  |  | 33 | $100 \%$ |

From the table above, the students' score in class interval between 50 - 56 was 3 students ( $3.03 \%$ ), class interval between $57-63$ was 5 students ( $15.15 \%$ ), class interval between $64-69$ was 5 students ( $15.15 \%$ ), class interval between $70-76$ was 13 students ( $39.39 \%$ ), class interval between $74-79$ was 4 students ( $13.33 \%$ ), class interval between 77 - 83 was 4 students ( $12.12 \%$ ), and the last class interval between 91 97 was 2 students ( $6.06 \%$ ).

In order to get description of the data clearly and completely, the researcher presents them in histogram on the following figure:


From the histogram above, the students' score 53 was 1 students, the students' score 60 was 5 students, the students' score 67 was 5 students, the students' score 73 was 13 students, the students' score 80 was 4 students, the students' score 89 was 3 students, and the last the students' score 94 was 2 students.

## 3. Description of the Comparison Data between Pre-test and Post-Test of

## Experimental Class and Control class

a. The Comparison Data between Experimental class and control class in pre-test

Before researcher giving post-test to both of class (control and experimental class) the researcher didn't know students' reading comprehension. After researcher giving pre-test, the researcher got the
comparison data between pre-test score an experimental and control class. The comparison data can be seen in the following table:

## Table 17

The Comparison Data of Experimental Class and Control Class in Pre-test

| Description | Experimental Class | Control Class |
| :---: | :---: | :---: |
| Total | 1775 | 1740 |
| High Score | 80 | 75 |
| Lowest Score | 30 | 30 |
| Mean | 58.36 | 55.47 |
| Median | 57.98 | 52.95 |
| Modus | 57.5 | 52.46 |
| Range | 50 | 45 |
| Interval | 8 | 7 |
| Standard | 12.8 | 10.99 |
| Deviation | 163.97 | 142.33 |
| Variants |  |  |

Based on the table of score of experimental class in pre-test was 1775; control class was 1740 , mean score of experimental class was 58.36; control class 55.47, median of experimental class was 57.98; control class was 52.95, modus of experimental class was 57.5; control class was 52.46, standard deviation of experimental class was 12.8; control class was 10.99 , and variants of experimental class was 163.97 ; control class was 142.33 .

In order to get pre-test data description of the experimental class and control class completely. The researcher presents the histogram on the following figure;

b. The Comparison Data between Pre-test and Post-test by Using

## Retelling Strategy in Experimental Class

The comparison score between pre-test and post-test of experimental class it can be seen in the following table:

Table 18
The comparison Data of Experimental Class in Pre-test and Post-test

| Description | Pre-test | Post-test |
| :---: | :---: | :---: |
| Total | 1775 | 2575 |
| High Score | 80 | 100 |
| Lowest Score | 30 | 65 |


| Mean | 58.36 | 87.78 |
| :---: | :---: | :---: |
| Median | 57.98 | 83.88 |
| Modus | 57.5 | 84.66 |
| Range | 50 | 35 |
| Interval | 8 | 6 |
| Standard | 12.8 | 9.6 |
| Deviation | 163.97 | 57.78 |
| Variants |  |  |

Base on the table above the total score of experimental class in pre-test was 1775 ; post-test was 2575 , pre-test mean score was 58.36 ; post-test was 87.78 , pre-test standard deviation was 12.8 ; post-test was 9.6 , pre-test variants was 163.97 ; post-test was 57.78 , pre-test median was 67.98 ; posttest median was 83.88 , pre-test range was 50 ; post-test range was 35 , pretest modus was 57.5 ; post-test modus was 84.66 , pre-test interval was 8 ; post-test interval was 6 . The researcher got the high score 100 and the lowest score 30; meanwhile the highest score was 100 and the lowest score was 30 .

In order to get the pre-test and post-test data description of experimental class clearly and completely, the researcher presents the histogram on the following figure:


From the histogram above, the students' score of experimental class in post-test was higher than pre-test.
c. The Comparison Data between Pre-test and Post-test in Control Class

The comparison score between pre-test and post-test in control class in can be seen in the following table:

Table 19
The Comparison Data of Control Class in pre-test and Post-test

| Description | Pre-test | Post-test |
| :---: | :---: | :---: |
| Total | 1740 | 2425 |
| High Score | 75 | 95 |
| Lowest Score | 30 | 50 |
| Mean | 55.47 | 73.42 |
| Median | 52.95 | 77.44 |
| Modus | 52.46 | 72.79 |
| Range | 45 | 45 |


| Interval | 7 | 7 |
| :---: | :---: | :---: |
| Standard Deviation | 10.99 | 10.01 |
| Variants | 142.33 | 85.91 |

Based on the table above the total score of control class in pre-test was 1740; post-test was 2425 , pre-test mean score was 55.47 ; post-test was 73.42, pre-test standard deviation was 10.99 ; post-test was 10.01 , pre-test variants was 142.33 ; post-test was 85.91 , pre-test median was 52.95 ; posttest median was 77.44 , pre-test range was 45 ; post-test range was 45 , pretest modus was 52.46 ; post-test modus was 72.79 , pre-test interval was 7 ; post-test interval was 7. The researcher got the high score 95 and the lowest score 30; meanwhile the highest score was 95 and the lowest score was 30 .

In order to get the pre-test and post-test data description of experimental class clearly and completely, the researcher presents the histogram on the following figure:


From the histogram above, the students' score of control class in posttest was higher than pre-test.
d. The Comparison Data between Experimental class and Control Class in Post-test

Based on above diagram, researcher compared between description data pre-test of control class and description data of experimental class on the following figure:

Table 20
The Comparison Data of Experimental Class and Control Class in Post-test

| Description | Experimental Class | Control Class |
| :---: | :---: | :---: |
| Total | 2575 | 2425 |
| High Score | 100 | 95 |


| Lowest Score | 65 | 50 |
| :---: | :---: | :---: |
| Mean | 87.78 | 73.42 |
| Median | 83.88 | 77.44 |
| Modus | 84.66 | 72.79 |
| Range | 35 | 45 |
| Interval | 6 | 7 |
| Standard Deviation | 9.6 | 10.01 |
| Variants | 57.78 | 85.91 |

Based on the table of score of experimental class and control class in post-test the total score in experimental class was 2575 ; control class was 2425, mean score of experimental class was 87.78 ; control class 73.42 , median of experimental class was 83.88 ; control class was 77.44 , modus of experimental class was 84.66 ; control class was 72.79 , standard deviation of experimental class was 9.6 ; control class was 10.01 , and variants of experimental class was 57.78; control class was 85.91 .

In order to get post-test data description of the experimental class and control class completely. The researcher presents the histogram on the following figure;


From the histogram above, the students' score of experimental class and control class in post-test and experimental class was higher than control class.

## B. Hypothesis

After calculating the data of post-test, researcher has found that posttest result of experiment and control class is normal and homogenous. Based on the result, researcher used parametric test by using T-test to analyze the hypothesis. Hypothesis alternative $\left(\mathrm{H}_{\mathrm{a}}\right)$ of the research was "There was the significant effect of Retelling Strategy on Students' Reading Comprehension". The calculation can be seen on the appendix 21.

Table 21
Result of T-test from the Both Averages

| Pre-test |  | Post-test |  |
| :---: | :---: | :---: | :---: |
| $\mathrm{t}_{\text {count }}$ | $\mathrm{t}_{\text {table }}$ | $\mathrm{t}_{\text {count }}$ | $\mathrm{t}_{\text {table }}$ |
| 0.94 | 2.000 | 6.805 | 2.000 |

$$
\mathrm{H}_{\mathrm{a}}: \mu_{1}>\mu_{2}
$$

Where:
$\mathrm{H}_{\mathrm{a}}: \mu_{1}>\mu_{2}$ "There was a significant effect of using Retelling Strategy on students' reading comprehension".

Based on researcher calculation, researcher found that $\mathrm{t}_{\text {count }} 0.94$ while
$\mathrm{t}_{\text {table }} 2.000$ with opportunity $(1-\alpha)=1-5 \%=95 \%$ and $d k=n_{1}+n_{2}-2=31$
$+33-2=62$. Cause $\mathrm{t}_{\text {count }}>\mathrm{t}_{\text {table }}(6.805>2.000)$, it means that hypothesis $\mathrm{H}_{\mathrm{a}}$ was accepted and $\mathrm{H}_{0}$ was rejected. So, there was the significant effect of using Retelling Strategy on Students' Reading Comprehension.

## C. Discussion

Based on the related findings, the researcher discussed the result of this research and compared with the related findings. It also discussed with the theory that has been stated by researcher. First, Dedy Khisbulloh ${ }^{1}$, showed that the experimental group got 44.48 . Second, Anita ${ }^{2}$ showed that the experimental

[^30]group got 60.86 for the mean score of pre-test. Anita's pre-test result was higher than Dedy's result. Third, Umatul mahmuda ${ }^{3}$ showed that the experimental class got 74.70 for the mean score of pre-test. The last, Darwisah ${ }^{4}$ Irwan D showed that the experimental group got 64.43 . Dedy's pre-test result was lowest than Anira's, Umatul's, and Darwisah's.

Meanwhile, the researcher got the mean score of pre-test of the experimental group was 58.36 and it was the lowest pre-test result than Umatul's, Anita's and Darwisahs' result but higest pre-test result than dedy's of the related findings. From the above description, it can be seen that the highest mean score of pre-test of the experimental group was gotten by Umatul's result where the mean score of pre-test was 74.70 and the lowest mean score of pre-test of the experimental group was gotten by Dedy khisbulloh in his thesis where the mean score of pre-test was 44.43 It means, before using Retelling strategy, students' score was low and for the researcher, the mean score of pre-test of the experimental group was under the standardization where the standardization mark is 75 .

[^31]Then, for the post-test result, Dedy khisbulloh ${ }^{5}$ got the experimental class score was 64.96. Umatul Mahmuda ${ }^{6}$ got the experimental class ' score was 80.58, and it was highest than Dedy's result. Anita's ${ }^{7}$ got the experimental class' score was 71.89 , and it was highest than Dedy's result, and Darwisah's ${ }^{8}$ got the experimental class' 68.29 , it was lower than Umatul's and Anita's result. Besides, the researcher got the mean score for experimental class after using Retelling Strategy was 87.78 and it was the highest score among the related findings.

From the description, it can be seen that the highest mean score of posttest of the experimental group gotten by the researcher where the mean score of post-test 87.78 and the lowest mean score of post-test was gotten by Dedy's in his thesis where the mean score of post-test 64.96. So, among the mean score of post-test the mean score have increase than pre-test. Where, for the researcher result, the mean score of posts past-test was passed the standardization where the standardization markis 75.

Based on the result, the researcher has got significant effect of using Retelling Strategy, so have the reseracher who mentioned in related finding. Dedy Khisbullosh ${ }^{9}$ found that $t_{0}$ was higher than $t_{t}(1769>2.48)$, Anita's ${ }^{10}$ found

[^32]that $t_{0}$ was higher than $t_{t}(3.911>2.00)$, Umatul Mahmuda ${ }^{11}$ found that $t_{0}$ was higher than $t_{t}(1.511>1.49)$, Darwisah Irwan $D^{12}$ found that $t_{0}$ was higher than $t_{t}$ (3.82>2.00). From the description, t-test result from Anita was the highest between Dedys', Umatuls', and Darwisah result and t-test result from Umatul was lowest them. Beside, the researcher also found that $t_{0}$ was higher than $t_{t}$ where $t_{0}$ was 6.805 and $t_{t}$ was $2.000(6.805>2.000)$. Where, the researcher result of $t$-test was highest among the related finding result. So, the result of $t$-test of Retelling Strategy highest than the result t-test of related finding. It can be seen that among the researchers, the using of Retelling Strategy gave the effect to students' reading comprehension at VIII grade MTs N Batang Angkola Tapanuli Selatan where it is suitable with the theory from Rose, Cundick and Higbee, Retelling and the Reading Comprehension of Proficient and Less-Proficient Readers said that, in the form of retelling, significantly increased the reading comprehension performance of elementary aged learning-disabled children. ${ }^{13}$ While Torgesen states that "normal elementary school readers use verbal rehearsal strategies more frequently than do learning-disabled children" ${ }^{14}$. Similarly, proficient readers appear more adept at using specific cognitive strategies than do less proficient readers. This proofs show that Retelling is

[^33]suitable to be applied in teaching reading comprehension because it has been proven by the previous researches and the theory. So, Retelling has given the significant effect to the research that has been done by the researcher or the other researcher who mentioned in related finding.

From the result of that is previously stated, it was proved that the students of the experimental group who were taugh reading comprehension recount tetx by using Retelling Strategy got better result than the control group that were taugh reading comprehension by using conventional method.

## D. Threats of the Research

The researcher found the threats of the research as follows:

1. The students were not serious in answering the pre-test and post-test. Some of them still did cheating. It made the answer of the test was not pure because they did not do it by themselves.
2. The students were noisy while the learning process. They were not concentrating in following the learning process. Some of them talked to their friends and some of them did something outside the teacher's rule. Of course it made them can not get the teacher's explanation well and gave the impact to the post-test answer.
3. The students were too enthusiastic in answering the adjective, specific participants and the generic structures of the text, there are identification and description, it made them be not followed the rule of Retelling Strategy

When the teacher gives other text, the students feel confused establish which the orientation and description on the text.

## CHAPTER V

## CONCLUSION AND SUGGESTION

## A. Conclusion

Based on the result of the research, the conclusions of this research are:

1. Before using Retelling Strategy, students' reading comprehension was still low. It can be seen by highest score of experimental class in pre test was 80 only and the lowest score was 30 . While the highest score of control class was 75 and the lowest score was 30 . Besides, the mean score of the experimental class with using conventional method was 58.36 and the control class with using conventional method was 55.47 , it is on the level low.
2. After using Retelling Strategy, researcher got the highest score of experimental class became 100 and the lowest score 65 and the mean score of the experimental class was higher than control class (87.78>73.42). It means that by Retelling Strategy, students' reading comprehension was higher.
3. Based on the calculation of $t_{\text {count }}$ was 6.805 was higher than $t_{\text {table }}$ was 2000 and the mean score of experimental class in post test was 87.78 , meanwhile the mean score of control class in post test was 73.42 , it was higher than control class ( $87.78>73.42$ ). It can be concluded that there was the significant effect of Retelling Strategy on Students' Reading Comprehension
at VIII Grade MTs N Batang Angkkola Tapunli Selatan where $\mathrm{H}_{\mathrm{a}}$ was accepted and $\mathrm{H}_{0}$ was rejected.

## B. Suggestion

Based on the above conclusion, the researcher has some suggestions as follow:

1. For headmaster, provide tools and media complete in teaching reading Comprehension. That students' increase to learning English with tool and media.
2. For the English teacher of MTs N Batang Angkola, it is very wise to apply the innovative approach such as Retelling Strategy in teaching reading Comprehension in Recount text.
3. For the students, it is hoped to use Retelling Stategy, because it can make them to be able to communicate or communicative competence.

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## APPENDIX 1

## Experimental Class

# RENCANA PELAKSANAAN PEMBELAJARAN 

(RPP)

| Nama Sekolah | $:$ MTs N Batang Angkola |
| :--- | :--- |
| Mata Pelajaran | $:$ Bahasa Inggris |
| Kelas/semester | $:$ VIII/ II |
| Alokasi Waktu | $: \mathbf{2 x 4 0}$ Menit |
| Skill | $:$ Reading |

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

| B. Kompetensi Dasar <br> 1. Membaca nyaring bermakna teks fungsional dan essai pendek sederhana berbentuk recount dengan ucapan, tekanan dan intonasi yang berterima yang berkaitan dengan lingkunagan sekitar. <br> 2. Merespon makna dalam teks tulis fungsional pendek sederhana secara akurat, lancar dan berterima yang berkaitan | C. Indikator Pencapaian kompetensi <br> 1. Membaca nyaring dan bermakna teks esseai pendek berbentuk recount. <br> 2. Mengidentifikasi berbagai makna teks recount. <br> 1. Mengidentifikasi tujuan komunikatif teks recount. <br> 2. mengidentifikasi langkah retorika dan ciri kebahasaan teks |
| :---: | :---: |


| dengan lingkunagan sekitar | recount. |
| :---: | :---: |
| 3. Merespon makna dan langkah retorika dalam sesi pendek sederhana secara akurat, lancar dan berterima yang berkaitan dengan lingkungan sekitar dalam teks berbentuk recount | 1. Mengidentifikasi berbagai informasi dalam teks fungsional <br> 2. Mengidentifikasi tujuan komunikatif teks funfsional <br> 3. Mengidentifikasi ciri kebahasaan teks fungsional |

## D. Tujuan Pembelajaran :

Pada akhir pembelajaran diharapkan :

1. Siswa mampu mengidentifikasi ide pokok dalam teks recount
2. Siswa dapat menentukan generic structure dari teks recount
3. Siswa mampu memahami informasi yang penting dalam teks recount
4. Siswa mampu menyimpulkan informasi yang terdapat dalam teks recount

## E. Materi Pembelajaran : Teks monolog berbentuk recount

F. Metode Pembelajaran : Retelling strategy

Procedure

1. Grasp the main idea
2. Describe the main event with accuracy
3. Tell the story sequentially
4. Use vocabulary or phrases from the text
5. Activate prior knowledge to enhance understanding
6. Aware of the characters and settings
7. Use details to enhance the retelling

## G. Langkah-langkah kegiatan

1. Pendahuluan
a. Guru memasuki kelas dengan mengucapkan salam dan menyapa siswa dengan bahasa ingrris.
b. Guru meminta siswa untuk membuka kelas dengan berdo'a.
c. Guru memberikan stimulus berupa pemberian materi tentang recount.
d. Guru menjelaskan secara ringkas tentang materi yang akan dipelajari.

## 2. Kegiatan Inti

1. Memahami ide pokok dalam cerita. Dalam langakah ini, guru memberi pemahaman/ menjelaskan tentang ide pokok dalam cerita/teks yang dibaca.
2. Menggambarkan/ mendeskripsikan intisari dalam setiap paragraph dengan tepat/akurat.
3. Menceritakan kembali cerita dalam teks dengan bentuk tulisan/lisan. Dalam dengan bahasa sendiri.
4. Menggunakan kosakata yang ada dalam cerita. Dalam langkah ini guru membingbing siswa untuk menggunkan kosakata dari teks yang dibaca.
5. Mengaktifkan pengetahuan mereka terlebih dahulu agar memperdalam pemahaman mereka. Dalam langkah ini guru meminta siswa untuk mengaktifkan pengetahuan untuk meningkatkan pemahaman mereka dan itu bisa meningkatkan antusias siswa untuk menceritakan cerita/teks.
6. Mendiskripsikan setting dan karakter dalam cerita. Dalam langkah ini siswa diminta mampu mendeskripsikan setting atau karakter setelah siswa membaca teks.
7. Guru memberi instruksi untuk lebih teliti dan mengecek tulisannya dan guru menunjuk peserta didik maju untuk menceritakan kembali teks yang dibaca secara komplit. Dalam langkah ini siswa tidak hanya menceritakan tentang karakter/setting tapi siswa menceritakan teks secara lengkap berdasarkan teks.

## 3. Penutup

1. Guru dan siswa membuat kesimpulan tenntang materi yang sudah dipelajari pada hari itu.
2. Guru meminta siswa mengakhiri kelas dengan berdo'a
3. Salam
H. Sumber Belajar : Buku teks yang relevan, benda-benda sekitar, kamus bahasa inggris, internet.
I. Media : Papan tulis, kapur/ spidol, penghapus.

## J. Penilaian :

| Indikator pencapaian <br> kompetensi | Teknik <br> penilaian | Bentuk <br> Instrument | Instrument <br> soal |
| :--- | :--- | :--- | :--- |
| 1. Mengidentifikasi |  |  |  |
| kalimat atau ide pokok |  |  |  |
| yang terdapat dalam |  |  |  |
| teks |  |  |  |

1. Jumlah skor maksimal keseluruhan adalah 100
2. Jawaban benar diberi skor 4 dan jawaban salah diberi skor 0 . Jumlah skor keseluruhan $4 \times 25=100$.
3. Nilai maksimal = jumlah jawaban yang benar

Jumlah soal

Padangsidimpuan, 2019

Mengetahui
Validator
Researcher

## Zainuddin, S.S.,M.Hum

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## Masriyanti

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## Experimental Class

## Learning Material

## A. Simple Past Tense

Simple past tense adalah suatu kalimat yang menyatakan peristiwa, kejadian, perbuatan pekerjaan atau kegiatan yang terjadi / berlaku pada masa lamapau (masa lalu).

1. Past tense
1) Simple past tense

- $\mathrm{S}+$ to be (was, were)+ complement
- S+ V II+ complement

2) Past continuous tense

- S+ to be (was, were)+ V1+Ing+ complement

3) Past Perfect tense

- S+ had+ been+ complement
- S+ had + V III + complement

4) Past Perfect Continuous tense

- S+ Had + been+ V I+ Ing + complement

2. Conjunction; then, before, after, etc.

## B. Recount Text

Communicative purposes: to list and describe past experience by retelling events in the order in which they happened.

## C. Generic structure of recount text

The generic structure of recount text, are:

1. Orientation: consist of opening, introduction the participant, time and the place
2. Events: a part of recount text that contains sequences of phenomenon or tells what happened in the story.
3. Re-orientation : contains optional closure of the event in the text

## D. Language Features

The language feature of recount text, are:

1. Using of predicate followed by past tense, past perfect, and past continuous tense
2. Using verb of doing, such as; went, took, got, saw, ect.
3. Using of adjective to show the personal attitude, such as; it was, wonderful, it was fun, we had a good time, etc.
4. Using sequence markers, such as; first, second, third, etc or next, after that, finally.

## E. Example of recount text

## My Friend's Birthday Party

Last week I went to my best friend birthday party, I when there with my baby pink dress and wearing at flat baby pink shoes too. My mom drove me to get to her house.

I was the first person came there, she seems really happy when she saw me. She hugged me and then took me to the birthday room. Not for a while our other friends came too.

After the party ends, I called my mom to pick me up but she had to go to out of town for business, and my mom won't let me alone at home. So, I decided to sleepover at my best friend's house. Before we go to bed we opened the present.

After that we went to sleep because it's almost midnight.

## Holiday in Australia

I really enjoyed my holiday in Australia. Last Sunday I visited a marine park called Sea World which is at surfers' Paradise near Brisbane. It's Australia's largest marine park and I had a wonderful day there.

The first thing I saw was the Oceanorium where you can watch all sorts of sea fish and animal under water. There were huge turtles, sharks, and a beautiful tropical sea fish. The most exciting thing was watching a man feeding the sharks. He wore a special diving suit. Then I watched the performance of sea animals. The saw was in a big outdoor swimming pool. There were killer whales, dolphins and sea lions, and they did all sort of fantastic things in the water. One of the girls in the show rode around the pool on the back of killing whale, and another girl rode underwater on the back of a big turtle. After the saw I had lunch. There were several big restaurant at the park and I had lunch in a restaurant that was shape like a ship! Then I watched a wonderful water-ski show which was held on a lake.

There were lots of other things to do at the park. There was lake cruising, a train ride, a big water slide, swimming pools, and an incredible roller coaster called the 'corkscrew'- because it goes three loops upside down. But I wish I had gone on the roller coaster ride before lunch rather than after it!

## (My Friend's Birthday Party): Question 1-5

1. What is the topic of the text?
2. What is the main idea of the second paragraph?
3. The communicative purpose of the text is.....
4. The text tells us about. $\qquad$
5. What does the writer's and her best friend do before went sleep?
(Holiday in Australia): Question 6-10
6. What is the topic of the text?
7. What is the main idea of the second paragraph?
8. There were huge turtles, Shark, and a beautiful a tropical sea fish", (paragraph 2)

The antonym of the underlined word is....
4. Where is the location of Marine park?
5. Which of the following animals in known as a 'killer'?

## Key answer

Key answer ( My friend's birthday party) 1-5

1. I went to my best friend birthday party
2. The writer was first person came to the party
3. To retell events for the purpose of informing
4. A birthday party
5. They were opened the present

Key answer ( Holiday in Australia) 6-10
6. Holiday in Australia
7. The Oceanorium displayed all short of fish and animals underwater
8. Tiny
9. In Australia

## APPENDIX 2

## Control Class

## RENCANA PELAKSANAAN PEMBELAJARAN

(RPP)

| Nama Sekolah | $:$ MTs N Batang Angkola |
| :--- | :--- |
| Mata Pelajaran | $:$ Bahasa Inggris |
| Kelas/Semester | $:$ VIII/II |
| Alokasi Waktu | $: 2 \times 40$ menit |
| Skill | $:$ Reading |

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

| L. Kompetensi Dasar <br> 4. Membaca nyaring bermakna teks fungsional dan essai pendek sederhana berbentuk recount dengan ucapan, tekanan dan intonasi yang berterima yang berkaitan dengan lingkunagan sekitar. <br> 5. Merespon makna dalam teks tulis fungsional pendek sederhana secara akurat, lancar dan berterima yang berkaitan | M. Indikator Pencapaian kompetensi <br> 3. Membaca nyaring dan bermakna teks esseai pendek berbentuk recount. <br> 4. Mengidentifikasi berbagai makna teks recount. <br> 3. Mengidentifikasi tujuan komunikatif teks recount. <br> 4. mengidentifikasi langkah retorika dan ciri kebahasaan teks |
| :---: | :---: |


| dengan lingkunagan sekitar <br> 6. Merespon makna dan langkah retorika dalam sesi pendek sederhana secara akurat, lancar dan berterima yang berkaitan dengan lingkungan sekitar dalam teks berbentuk recount | recount. <br> 4. Mengidentifikasi berbagai informasi dalam teks fungsional <br> 5. Mengidentifikasi tujuan komunikatif teks funfsional <br> 6. Mengidentifikasi ciri kebahasaan teks fungsional |
| :---: | :---: |

## N. Tujuan Pembelajaran :

Pada akhir pembelajaran diharapkan :

1. Siswa mampu membaca dengan nyaring dan bermakna teks fungsional pendek
2. Siswa mampu mengidentifikasi fungsi social teks fungsional pendek
O. Materi Pembelajaran : Teks Fungsional pendek, teks esei berbentuk recount
P. Metode Pembelajaran : Conventional Method

## Q. Langkah-langkah Kegiatan

## a. Pendahuluan

1. Mengucapkan salam dengan berdo'a
2. Guru mengabsen siswa
3. Guru menjelaskan pentingnya materi yang akan dipelajari berikut kompetensiyang harus dikuasai siswa
4. Guru menjelaskan secara ringkas tentang materi yang akan dipelajari.

## b. Kegiatan Inti

1. Guru memberikan stimulus berupa pemberian materi tentang recount teks.
2. Guru menjelaskan pengertian, unsur kebahasaan dan generic structure yang digunakan dalam teks recount.
3. Mendengarkan teks yang dibacakan oleh guru/teman.
4. Menyebutkan tujuan komunikatif teks fungsional pendek

## c. Penutup

1. Guru membuat kesimpulan pelajaran.
2. Guru memberikan tugas untuk siswa.
3. Guru meminta siswa mengakhiri kelas dengan berdo'a
4. Salam
R. Sumber Belajar : Buku teks yang relevan, gambar terkait tema/topic, kamus bahasa inggris
S. Media : Papan tulis, kapur/ spidol, penghapus
T. Penilaian :

| Indikator pencapaian <br> kompetensi | Teknik <br> penilaian | Bentuk <br> Instrumen | Instrumen soal |
| :---: | :--- | :--- | :--- |
| 1.Membaca <br> dengan nyaring <br> dan bermakna <br> teks fungsional <br> pendek. | Membaca <br> nyaring | Read the text aloud <br> and clearly. |  |
| 2. Mengidentifikasi <br> funsi social teks <br> fungsional <br> pendek. | Teks lisan | Pilihan ganda | answer. |

## Pedoman penilaian :

A. (Jawaban benar x2)
B. Jawaban salah nilai 0
C. Rubrik Penilaia :

| Uraian | Skor |
| :---: | :--- |
| Jawaban benar | 2 |
| Jawaban salah | 0 |

Padangsidimpuan, 2019

Mengetahui,
Validator
Researcher

Suyono, S.Ag
Masriyanti
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## Control Class

## Learning Material

## 1. Recount Text

Recount text is the process of giving information by text, to retell events for the purpose of information or entertaining.

## 2. Generic Structure of Recount text

- Orientation

Orientation consist of opening, introduction the participant, time and the place. Orientation refers to part of the text which gives setting or introducing. The part will be guide the reader to make guessing of the content or form of the text which is read.

## - Events

An event is a part of recount text that contains sequences of phenomenon or tells what happened in the story.

- Re-orientation

Re-Orientation is the last structure of recount text. Re-orientation contains optional closure of the event in the text.

## 3. Example of Recount text

## My Friend's Birthday Party

Last week I went to my best friend birthday party, I when there with my baby pink dress and wearing at flat baby pink shoes too. My mom drove me to get to her house.

I was the first person came there, she seems really happy when she saw me. She hugged me and then took me to the birthday room. Not for a while our other friends came too.

After the party ends, I called my mom to pick me up but she had to go to out of town for business, and my mom won't let me alone at home. So, I decided to sleepover at my best friend's house. Before we go to bed we opened the present.

After that we went to sleep because it's almost midnight.

## Holiday in Australia

I really enjoyed my holiday in Australia. Last Sunday I visited a marine park called Sea World which is at surfers' Paradise near Brisbane. It's Australia's largest marine park and I had a wonderful day there.

The first thing I saw was the Oceanorium where you can watch all sorts of sea fish and animal under water. There were huge turtles, sharks, and a beautiful tropical sea fish. The most exciting thing was watching a man feeding the sharks. He wore a special diving suit. Then I watched the performance of sea animals. The saw was in a big outdoor swimming pool. There were killer whales, dolphins and sea lions, and they did all sort of fantastic things in the water. One of the girls in the show rode around the pool on the back of killing whale, and another girl rode underwater on the back of a big turtle. After the saw I had lunch. There were several big restaurant at the park and I had lunch in a restaurant that was shape like a ship! Then I watched a wonderful water-ski show which was held on a lake.

There were lots of other things to do at the park. There was lake cruising, a train ride, a big water slide, swimming pools, and an incredible roller coaster called the 'corkscrew'- because it goes three loops upside down. But I wish I had gone on the roller coaster ride before lunch rather than after it!
(My Friend's Birthday Party): Question 1-5
6. What is the topic of the text?
7. What is the main idea of the second paragraph?
8. The communicative purpose of the text is.....
9. The text tells us about.......
10. What does the writer's and her best friend do before went sleep?
(Holiday in Australia): Question 6-10
6. What is the topic of the text?
7. What is the main idea of the second paragraph?
8. There were huge turtles, Shark, and a beautiful a tropical sea fish", (paragraph 2)
The antonym of the underlined word is....
9. Where is the location of Marine park?
10. Which of the following animals in known as a 'killer'?

## Key answer

Key answer ( My friend's birthday party) 1-5
10. I went to my best friend birthday party
11. The writer was first person came to the party
12. To retell events for the purpose of informing
13. A birthday party
14. They were opened the present

Key answer ( Holiday in Australia) 6-10
15. Holiday in Australia
16. The Oceanorium displayed all short of fish and animals underwater
17. Tiny
18. In Australia
19. Seal

## APPENDIX 3

## Instrument for Pre-Test after validity

Name :
Class :
Instruction : Choose the correct answer by crossing (X) a,b,c or d .

## Text 1

## Read the following text and answer question number 1-4 below;

## My Adolescence

I had my adolescence when I was thirteen. It started with acne that showed up on my face. It was very annoying. It lowered my self-esteem and it was embarrassed to come out of my house and play with friends.

Fortunately, my Mom gave me a good medicine. In three weeks, the acnes started to vanish although those showed some black spots in my face.

That was my bad experience with adolescence, though there were still lots of good experience too.

1. What is the first paragraph about?
A. I was thirteen
B. My adolescence
C. Adolescence
D. It was very annoying
2. The text written in the form $\mathrm{a} / \mathrm{an} . . .$. .
A. Recount text
B. Narrative text
C. Spoof text
D. Description text
3. It was lowered my self esteem and it was embarrassed to come out of my house and play with friends. (paragraph 2). The underline words refers to......
A. A writer
B. Acne
C. Mom
D. Face
4. What is the main idea of the last paragraph?
A. Lowered self esteem
B. Annoying
C. Showed some black spots
D. Fortunately, my Mom gave me a good medicine

## Text 2

## Read the following text and answer question number 5-8 below;

## My Friend's Birthday Party

Last week I went to my best friend birthday party, I when there with my baby pink dress and wearing at flat baby pink shoes too. My mom drove me to get to her house.

I was the first person came there, she seems really happy when she saw me. She hugged me and then took me to the birthday room. Not for a while our other friends came too.

After the party ends, I called my mom to pick me up but she had to go to out of town for business, and my mom won't let me alone at home. So, I decided to sleepover at my best friend's house. Before we go to bed we opened the present.

After that we went to sleep because it's almost midnight.
5. Who is the first person came to the party?
A. The writer
B. Mom
C. Friends
D. Others
6. What is conclusion of the text?
A. I call my mother to pick me up
B. Wednesday
C. Finally, a writer sleepover at her best friend house
D. Party is end
7. In the second paragraph tells us about.....
A. A writer is the first person come to the party
B. An baby pink dress and pink shoes
C. Birthday room
D. Sleeping in the midnight
8. "she hugged me and then took me to the birthday room"

What is the meaning of underlined word.?
A. Mencium
B. Memeluk
C. Memarahi
D. Menangis

## Read the text and answer question below!

## Holiday in Australia

I really enjoyed my holiday in Australia. Last Sunday I visited a marine park called Sea World which is at surfers' Paradise near Brisbane. It's Australia's largest marine park and I had a wonderful day there.

The first thing I saw was the Oceanorium where you can watch all sorts of sea fish and animal under water. There were huge turtles, sharks, and a beautiful tropical sea fish. The most exciting thing was watching a man feeding the sharks. He wore a special diving suit. Then I watched the performance of sea animals. The saw was in a big outdoor swimming pool. There were killer whales, dolphins and sea lions, and they did all sort of fantastic things in the water. One of the girls in the show rode around the pool on the back of killing whale, and another girl rode underwater on the back of a big turtle. After the saw I had lunch. There were several big restaurant at the park and I had lunch in a restaurant that was shape like a ship! Then I watched a wonderful water-ski show which was held on a lake.

There were lots of other things to do at the park. There was lake cruising, a train ride, a big water slide, swimming pools, and an incredible roller coaster called the 'corkscrew'- because it goes three loops upside down. But I wish I had gone on the roller coaster ride before lunch rather than after it!
9. What is the topic sentence in the first paragraph?
A. I Really enjoyed my holiday in Australia
B. My holiday in Australia
C. In Australia
D. Last Sunday I visited a marine park
10. What is the main idea of the second paragraph?
A. There was a water-ski show held on a lake.
B. The sea animals performed fantastic things in the water
C. The writer had lunch in one of the restaurants at the park
D. The first thing I saw was the Oceanorium where you can watch all sorts of sea fish and animal under water
11. Conclusion of last paragraph is..?
A. Watching a girl riding on back of a turtle
B. Watching a girl riding on back of whale
C. But I wish I had gone on the roller coaster ride before lunch rather than after it!
D. Watching the man feeding the shark

## Read the text and answer question 12-15 below;

On Wednesday, my students and I went to Yogyakarta. We stayed at Dirgahayu Hotel which is not far from Malioboro.

On Thursday, we visited the temples in Prambanan. There are three big temples, the Brahmana, Syiwa and Wisnu temples. They are really amazing. We visited only Brahmana and Syiwa temples, because Wisnu temple is being renovated.

On Friday morning we went to Yogya Kraton. We spent about two hours there. We were lucky because we were led by a smart and friendly guide. Then we continued our journey to Borobudur. We arrived there at four p.m. At 5 p.m. we heard the announcement that Borobudur gate would be closed.
12. The purpose of the text is to
A. Tell past events
B. Entertain readers
C. Describe the smugglers
D. Report an event to the police
13. "They are really amazing"?

The underlined word refers to....
A. Angkor wat, syiwa, and sudra temples
B. Paria, brahmana, and temples
C. Brahmana, syiwa, and wisnu temples
D. Wisnu, syiwa, and borobudur temples
14. The main idea od second paragraph is?
A. Visited Prambanan
B. On Friday evening
C. On Friday afternoon
D. On Thursday, we visited the temples in Prambanan
15. The conclusion of the text is...
A. They heard the announcement that Borobudur gate would be closed
B. Announcement
C. They heard News about Prambanan
D. Narration

## Read the text and answer question number 16-20below

## A Trip to the Zoo

Yesterday my family went to the zoo to see the elephant and other animal. When we got to the zoo, we went to the shop to buy some food to give to the animals. After getting the food we went to the nocturnal house where we saw birds and reptiles which only come out at night.

Before lunch we went for a ride on the elephant. It was a thrill to ride it. Dad nearly fell off when he let go of the rope.

During lunch we fed some birds in the park. In the afternoon we saw the animals being fed. When we returned home we were tired but happy because we had so much fun.
16. When did happened?
A. Yesterday
B. Last Sunday
C. Last Monday
D. Last month
17. "It was a thrill to ride it. Dad nearly fell off when he let go of the rope."(paragraph 2) The underlined word refers to....
A. On the elephant
B. Lunch
C. Before
D. Went
18. The text tells about...
A. Holiday
B. Trip
C. Announcement
D. News
19. What is the mian idea of the first paragraph?
A. During lunch we fed some birds in the park
B. Yesterday my family went to the zoo to see the elephant and other animal
C. Before lunch we went for a ride on the elephant
D. to see the elephant and other animal
20. The conclusion in last paragraph is.....
A. When we returned home we were tired
B. The events very nice
C. We had so much fun.
D. They were tired but happy because they were so fun

Validator

Zainuddin, S.S.,M.Hum
NIP. 197606102008011016

## APPENDIX 4

## Instrument Post-Test after Validity

## Name :

Class :

## Instruction : Choose the correct answer by crossing (X) a,b,c or d .

## Read the text and answer question 1-4 below;

"My first memory"
I think my first memories started when I was about three or perhaps four years old. I remember falling from a tree and breaking my arms. I think I was playing in the garden of the big, old house we lived in. It was in a suburb of London. I can remember starting school when I was five.

There was a little boy called Thomas in the same class. He used to pull my hair when the teacher was not looking. One day I hit him on the head with a book and he began to cry. The teacher was very angry with me. I remember him saying, "Little girls don't do things like that." But since then Thomas never pulled my hair again.

1. The text tell about....
A. First memory
B. I think my first memory
C. Falling from a tree
D. A little boy
2. Where the writer lived......
A. In a suburb of london
B. Amerika
C. Belanda
D. Suburb of Indonesia
3. "One day I hit him on the head with a book and he began to cry" (Paragraph 2).
The underlined word means ......
A. Broke
B. Offended

## C. Attacked <br> D. Bumped

4. The main idea of first paragraph?
A. I remember falling from a tree and breaking my arms
B. Australia Amerika
C. My first memories started when I was about three or perhaps four years old
D. I can remember starting school when I was five.

## Read the following text to answer questions number 5 to 8.

Last week, Mr Damiri's wife had an accident. Her youngest child, Yusuf, was at home when it happened. He was playing with his new toy car. Suddenly Yusuf heard his mother calling, "Help! Help!" he ran to the kitchen. His mother had burnt herself with some hot cooking oil. She was crying with pain and the pan was on fire. Mr. Damiri had gone to the office. The other children had gone to school.

Yusuf was too small to help his mother, and she was too frightened to speak sensibly to him. But he ran to the neighbour's house and asked his neighbor to come and help his mother. The neighbor soon put out the fire and took Yusuf's mother to the clinic.

When Mr. Damiri came home, his wife told him what had happened. He was very proud of his son, "When you are a man, you will be just like your father,"she said.
5. The text tells about.....
A. Mr Damiri's Wife got accident
B. Yusup is his youngest son
C. Yusuf was too small to help his mother
D. Neigbour of Mr Damiri
6. How did the neighbour help Mrs. Damiri?
A. He called Mrs. Damiri's husband and ran to the kitchen
B. He called the fireman and put out the fire
C. He put out the fire and took Mrs. Damiri ot the clinic
D. He called the fireman and advised Mrs. Damiri to stay calm
7. The conclusion of last paragraph is.....
A. Mr. Damiri very proud of his son
B. Mr. Damiri's wife bring to the clinic
C. His son get upset to her mom
D. Mr. Damiri very happy
8. The main idea of the text is.
A. Neighboars' House
B. Last week, Mr Damiri's wife had an accident
C. Clinic
D. Hotel

## Read the following text to answer questions number 9 to12

FISHING
Yesterday I was going to the lake. It was the nice time for fishing because I had no work to do. I wake earlier at tje morning then I when to the market place to buy some shirmps which I used for fishing bait. After that, I went to the lake to start fishing.

At that lake, I looked for the best point to fish. I went to the place under the big tree at the bank of the lake. I threw my hook as far as I can then I wait for the fish eating my bait. 30 minutes left and finally there was a fish ate my bait. It was the first big enough fish that I got.

I got 10 big fish 3 small fish at that day. I was so happy. I would cook that fish at home and then I would call my friends to come to my home then we would have a small party. But I was not lucky enough because on the way home I saw a beggar. He was an old poor beggar. I gave all of my fish to him and I wish he would be happy getting that fish. Perhaps he could sell them at the market and get some money to buy some food.

Even I did not have any fish after that, I was so happy because I could help people.
9. "But I was not lucky enough because on the way home I saw a beggar". The antonym of underlined word is....( Paragraph 3)
A. Unlucky
B. Good
C. Kindly
D. Bad
10. The topic sentences of the second paragraph is....
A. I went to the place under the big tree at the bank of the lake
B. Fishing man
C. At that lake, I looked for the best point to fish
D. At that lake
11. What is the main idea of the first paragraph...
A. Yesterday I was going to the lake
B. Yesterday I got big fish
C. On the lake
D. It was the nice time for fishing because I had no work to do.
12. What is conclusion of last paragraph...
A. Sadden
B. He didn't have anything but he was happy
C. A writer be arrogant
D. He got angry to beggar.

## Read the following text to answer questions number 13 to 15

Yesterday, at my school we had International Day. We had performances, food stalls, riffle ticket draw, and some of us were dressed in costumes.

We started our day off with performances but the one liked best was the one from our grade. It was about games. The performance I was in was called 'La Bamba'. Straight after performance we had lunch. There were food stalls. They came from Australia, Asia, Arab and Greece. Everyone had a job. I did my job after I had lunch. My job was to sell International Day books.We had displays in he halls.

The displays were good but I didn't get to see them. The displays came from a lot of countries. There were also a Trash \& Treasure stall where they sell toys. The school got them by asking children to bring them in. After lunch we had a raffle ticket draw. I didn't win anything but a lot people did. Although I didn't win anything, International Day was still fun.
13. The performance in which the writer involved was called 'La Bamba', was held $\qquad$
A. Before lunch
B. The first agenda
C. After all program
D. After the riffle ticket
14. "The displays came from a lot of countries".

What is the synonym of "displays"..?
A. Player
B. Performer
C. Audience
D. Students
15. The conclusion of text is....
A. A writer didn't get anything
B. A writer very happyand fun
C. International day was still fun
D. Although I didn't win anything, International Day was still fun.

## Read the following text to answer question 16-20

Late in the afternoon, the boys put up their tent in the middle of a field. As soon as this was done, they cooked a meal over an open fire. They were all hungry and the food smelt good.

After a wonderful meal, they told stories and sang songs by the camp fire. But sometime later it began to rain. The boys felt tired so they put out the fire and crept into their tent. Their sleeping-bags were warm and comfortable, so they all slept soundly. In the middle of the night, two boys woke up and began shouting. The tent was full of water! They all leapt out of their sleeping-bags and hurried outside.

It was raining heavily and they found that a stream had formed in the field. The stream wound its way across the field and then flowed right under their tent
16. What is the first paragraph about.?
A. The boys put up their tent in the middle of a field
B. The boys are very tired
C. The boys cooked a meal over an open fire
D. All of the them very hungry
17. What is the main idea in the first paragraph?
A. But sometime later it began to rain
B. Late in the afternoon, the boys put up their tent in the middle of a field
C. They told stories and sang songs by the camp fire
D. It was raining heavily and they found that a stream had formed in the field
18. According to the text, which statement is NOT TRUE?
A. The boys put up their tent in the middle of a field
B. They were all hungry and the food smelt good.
C. The boys felt tired so they put out the fire and crept into their tent.
D. The boys never felt tired and always happy
19. What is the conclusion of the last paragraph?
A. The rain was very heavy and they found a stream wound acrross under their tent.
B. It was raining heavly
C. The rain was never falling
D. they found that a stream had formed in the field
20. "Their sleeping-bags were warm and comfortable, so they all slept soundly" (Paragraph 2)
The underlined word can be replaced by $\qquad$
A. Noisily
B. Silently
C. Blustering
D. Sleepy

Padangsidmpuan, 2019
Validator

## Zainuddin, S.S.,M.Hum

NIP. 197606102008011016

## APPENDIX 5

## Answer key



| No | $\mathbf{1}$ | $\mathbf{2}$ | $\mathbf{3}$ | $\mathbf{4}$ | $\mathbf{5}$ | $\mathbf{6}$ | $\mathbf{7}$ | $\mathbf{8}$ | $\mathbf{9}$ | $\mathbf{1 0}$ | $\mathbf{1 1}$ | $\mathbf{1 2}$ | $\mathbf{1 3}$ | $\mathbf{1 4}$ | $\mathbf{1 5}$ | $\mathbf{1 6}$ | $\mathbf{1 7}$ | $\mathbf{1 8}$ | $\mathbf{1 9}$ | $\mathbf{2 0}$ | $\mathbf{2 1}$ | $\mathbf{2 2}$ | $\mathbf{2 3}$ | $\mathbf{2 4}$ | $\mathbf{2 5}$ | $\sum \mathbf{X t}$ | $\sum \mathbf{X t}^{\mathbf{2}}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 1 | 1 | 1 | 22 | 484 |
| 2 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 1 | 1 | 1 | 20 | 400 |
| 3 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 1 | 1 | 21 | 441 |
| 4 | 0 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 1 | 1 | 1 | 19 | 361 |
| 5 | 1 | 1 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 8 | 64 |
| 6 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 1 | 1 | 1 | 21 | 441 |
| 7 | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 0 | 1 | 1 | 0 | 15 | 225 |
| 8 | 1 | 1 | 0 | 0 | 1 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 12 | 144 |
| 9 | 0 | 1 | 1 | 0 | 1 | 0 | 1 | 1 | 1 | 1 | 0 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 1 | 1 | 1 | 18 | 324 |
| 10 | 1 | 1 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 15 | 225 |
| 11 | 1 | 1 | 1 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 9 | 81 |
| 12 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 22 | 484 |
| 13 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 0 | 1 | 0 | 1 | 16 | 256 |
| 14 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 19 | 361 |
| 15 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 0 | 0 | 1 | 1 | 1 | 22 | 484 |
| 16 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 0 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 0 | 1 | 1 | 20 | 400 |
| 17 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 0 | 0 | 1 | 1 | 1 | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 17 | 289 |
| 18 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 1 | 1 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 1 | 14 | 196 |
| 19 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 0 | 0 | 1 | 1 | 0 | 20 | 400 |
| 20 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 1 | 0 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 17 | 289 |
| 21 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 1 | 1 | 20 | 400 |
| 22 | 0 | 0 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 1 | 1 | 17 | 289 |
| 23 | 1 | 1 | 1 | 0 | 1 | 0 | 1 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 1 | 0 | 0 | 1 | 17 | 289 |


| 24 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 5 | 25 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 25 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 0 | 0 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 21 | 441 |
| 26 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 5 | 25 |
| 27 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 1 | 12 | 144 |
| 28 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 0 | 0 | 1 | 1 | 21 | 441 |
| 29 | 1 | 1 | 1 | 0 | 1 | 0 | 1 | 1 | 1 | 1 | 0 | 0 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 18 | 324 |
| 30 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 0 | 0 | 1 | 1 | 0 | 19 | 361 |
| $\mathrm{N}=30$ | 23 | 23 | 24 | 21 | 20 | 13 | 26 | 22 | 23 | 20 | 13 | 21 | 25 | 22 | 18 | 21 | 22 | 22 | 18 | 23 | 12 | 8 | 18 | 22 | 22 | 502 | 9.088 |
| p | 0.8 | 0.8 | 0.8 | 0.7 | 0.7 | 0.5 | 0.9 | 0.7 | 0.8 | 0.7 | 0.4 | 0.7 | 0.8 | 0.7 | 0.6 | 0.7 | 0.7 | 0.7 | 0.6 | 0.8 | 0.4 | 0.3 | 0.6 | 0.7 | 0.7 | $\sum \mathbf{X t}$ | $\sum \mathbf{X t 2}$ |
| q | 0.2 | 0.2 | 0.2 | 0.3 | 0.4 | 0.6 | 0.2 | 0.3 | 0.2 | 0.4 | 0.6 | 0.3 | 0.2 | 0.3 | 0.4 | 0.3 | 0.3 | 0.3 | 0.4 | 0.2 | 0.6 | 0.8 | 0.4 | 0.3 | 0.3 |  |  |
| 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 | $\sum \mathbf{X t}$ | $\sum \mathbf{X t}^{\mathbf{2}}$ |
| 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 1 | 1 | 1 | 22 | 484 |
| 2 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 1 | 1 | 1 | 20 | 400 |
| 3 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 1 | 1 | 21 | 441 |
| 4 | 0 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 1 | 1 | 1 | 19 | 361 |
| 5 | 1 | 1 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 8 | 64 |
| 6 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 1 | 1 | 1 | 21 | 441 |
| 7 | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 0 | 1 | 1 | 0 | 15 | 225 |
| 8 | 1 | 1 | 0 | 0 | 1 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 12 | 144 |
| 9 | 0 | 1 | 1 | 0 | 1 | 0 | 1 | 1 | 1 | 1 | 0 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 1 | 1 | 1 | 18 | 324 |
| 10 | 1 | 1 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 15 | 225 |
| 11 | 1 | 1 | 1 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 9 | 81 |
| 12 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 22 | 484 |
| 13 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 0 | 1 | 0 | 1 | 16 | 256 |
| 14 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 19 | 361 |
| 15 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 0 | 0 | 1 | 1 | 1 | 22 | 484 |
| 16 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 0 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 0 | 1 | 1 | 20 | 400 |
| 17 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 0 | 0 | 1 | 1 | 1 | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 17 | 289 |


| 18 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 1 | 1 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 1 | 14 | 196 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 19 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 0 | 0 | 1 | 1 | 0 | 20 | 400 |
| 20 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 1 | 0 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 17 | 289 |
| 21 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 1 | 1 | 20 | 400 |
| 22 | 0 | 0 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 1 | 1 | 17 | 289 |
| 23 | 1 | 1 | 1 | 0 | 1 | 0 | 1 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 1 | 0 | 0 | 1 | 17 | 289 |
| 24 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 5 | 25 |
| 25 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 0 | 0 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 21 | 441 |
| 26 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 5 | 25 |
| 27 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 1 | 12 | 144 |
| 28 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 0 | 0 | 1 | 1 | 21 | 441 |
| 29 | 1 | 1 | 1 | 0 | 1 | 0 | 1 | 1 | 1 | 1 | 0 | 0 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 18 | 324 |
| 30 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 0 | 0 | 1 | 1 | 0 | 19 | 361 |
| $\mathrm{~N}=30$ | 23 | 23 | 24 | 21 | 20 | 13 | 26 | 22 | 23 | 20 | 13 | 21 | 25 | 22 | 18 | 21 | 22 | 22 | 18 | 23 | 12 | 8 | 18 | 22 | 22 | 502 | 9.088 |
| p | 0.8 | 0.8 | 0.8 | 0.7 | 0.7 | 0.5 | 0.9 | 0.7 | 0.8 | 0.7 | 0.4 | 0.7 | 0.8 | 0.7 | 0.6 | 0.7 | 0.7 | 0.7 | 0.6 | 0.8 | 0.4 | 0.3 | 0.6 | 0.7 | 0.7 | $\sum \mathbf{X t}$ | $\sum \mathbf{X t 2}$ |
| q | 0.2 | 0.2 | 0.2 | 0.3 | 0.4 | 0.6 | 0.2 | 0.3 | 0.2 | 0.4 | 0.6 | 0.3 | 0.2 | 0.3 | 0.4 | 0.3 | 0.3 | 0.3 | 0.4 | 0.2 | 0.6 | 0.8 | 0.4 | 0.3 | 0.3 |  |  |


| 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 | EXt | $\Sigma \mathrm{Xt}^{2}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1 | 1 | 1 | 0 | 1 | 1 | 0 | 0 | 1 | 1 | 1 | 1 |  | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 20 | 400 |
| 2 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 19 | 361 |
| 3 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 0 | 0 | 1 | 1 | 0 | 1 | 1 | 1 | 0 | 0 | 17 | 289 |
| 4 | 1 | 0 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 21 | 441 |
| 5 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 1 | 1 | 1 | 0 | 1 | 1 | 0 | 0 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 18 | 324 |
| 6 | 1 | 1 | 0 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 20 | 400 |
| 7 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 21 | 441 |
| 8 | 1 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 1 | 1 | 0 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 1 | 0 | 0 | 1 | 1 | 1 | 1 | 16 | 196 |
| 9 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 0 | 0 | 1 | 1 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 1 | 0 | 15 | 225 |
| 10 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 1 | 1 | 21 | 441 |
| 11 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 0 | 22 | 484 |
| 12 | 0 | 0 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 0 | 1 | 1 | 12 | 144 |
| 13 | 1 | 1 | 0 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 1 | 10 | 100 |
| 14 | 1 | 1 | 1 | 1 | 0 | 1 | 0 | 1 | 1 | 1 | 0 | 0 | 1 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 0 | 0 | 16 | 196 |
| 15 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 0 | 1 | 1 | 22 | 484 |
| 16 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 0 | 1 | 1 | 0 | 20 | 400 |
| 17 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 1 | 1 | 0 | 1 | 0 | 0 | 1 | 1 | 0 | 1 | 10 | 100 |
| 18 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 0 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 0 | 1 | 1 | 1 | 0 | 19 | 361 |
| 19 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 21 | 441 |
| 20 | 1 | 0 | 1 | 1 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 10 | 100 |
| 21 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 23 | 529 |
| 22 | 1 | 1 | 0 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 21 | 441 |
| 23 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 0 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 19 | 361 |
| 24 | 1 | 01 | 1 | 1 | 1 | 1 | 0 | 0 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 20 | 400 |
| 25 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 22 | 484 |
| 26 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 19 | 361 |
| 27 | 1 | 1 | 0 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 22 | 484 |


| 28 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 9 | 81 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 29 | 1 | 1 | 1 | 0 | 1 | 0 | 1 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 1 | 15 | 225 |
| 30 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 15 | 225 |
| $\mathrm{~N}=30$ | 24 | 24 | 23 | 22 | 21 | 21 | 20 | 21 | 20 | 23 | 23 | 20 | 20 | 20 | 22 | 18 | 23 | 20 | 21 | 20 | 21 | 20 | 19 | 23 | 23 | 535 | 9879 |
| p | 0.8 | 0.8 | 0.7 | 0.7 | 0.7 | 0.7 | 0.7 | 0.7 | 0.6 | 0.7 | 0.7 | 0.6 | 0.6 | 0.6 | 0.7 | 0.6 | 0.7 | 0.6 | 0.7 | 0.6 | 0.7 | 0.6 | 0.6 | 0.7 | 0.7 | $\Sigma \mathbf{X t}^{\prime}$ | $\Sigma \mathbf{X t}^{2}{ }^{2}$ |
| q | 0.1 | 0.2 | 0.2 | 0.2 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.2 | 0.2 | 0.3 | 0.3 | 0.3 | 0.3 | 0.4 | 0.2 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.2 | 0.2 |  |  |

Appendix 7
Validity of
Post-Test

## Reliability 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 | $\Sigma \mathrm{Xt}$ | $\Sigma \mathbf{X t}{ }^{2}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |  | 0 | 0 | 1 | 1 | 1 | 22 | 484 |
| 2 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 1 | 1 | 1 | 20 | 400 |
| 3 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 1 | 1 | 21 | 441 |
| 4 | 0 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 1 | 1 | 1 | 19 | 361 |
| 5 | 1 | 1 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 8 | 64 |
| 6 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 1 | 1 | 1 | 21 | 441 |
| 7 | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 0 | 1 | 1 | 0 | 15 | 225 |
| 8 | 1 | 1 | 0 | 0 | 1 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 12 | 144 |
| 9 | 0 | 1 | 1 | 0 | 1 | 0 | 1 | 1 | 1 | 1 | 0 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 1 | 1 | 1 | 18 | 324 |
| 10 | 1 | , | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 15 | 225 |
| 11 | 1 | 1 | 1 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 9 | 81 |
| 12 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 22 | 484 |
| 13 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 1 | 16 | 256 |
| 14 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 19 | 461 |
| 15 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 0 | 0 | 1 | 1 | 1 | 22 | 484 |
| 16 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 0 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 0 | 1 | 1 | 20 | 400 |
| 17 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 0 | 0 | 1 | 1 | 1 | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 17 | 289 |
| 18 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 1 | 1 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 1 | 14 | 196 |
| 19 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 0 | 0 | 1 | 1 | 0 | 20 | 400 |
| 20 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 1 | 0 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 17 | 289 |
| 21 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 1 | 1 | 20 | 400 |
| 22 | 0 | 0 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 1 | 1 | 17 | 289 |
| 23 | 1 | 1 | 1 | 0 | 1 | 0 | 1 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 1 | 0 | 0 | 1 | 17 | 289 |
| 24 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 5 | 25 |
| 25 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 0 | 0 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 21 | 441 |


| 26 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 5 | 25 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 27 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 1 | 12 | 144 |
| 28 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 0 | 0 | 1 | 1 | 21 | 441 |
| 29 | 1 | 1 | 1 | 0 | 1 | 0 | 1 | 1 | 1 | 1 | 0 | 0 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 18 | 324 |
| 30 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 0 | 0 | 1 | 1 | 0 | 19 | 361 |
| $\mathrm{N}=30$ | 23 | 23 | 24 | 21 | 20 | 13 | 26 | 22 | 23 | 20 | 13 | 21 | 25 | 22 | 18 | 21 | 22 | 22 | 18 | 23 | 12 | 8 | 18 | 22 | 22 | 502 | 9.088 |
| P | 0.8 | 0.8 | 0.8 | 0.7 | 0.7 | 0.5 | 0.9 | 0.7 | 0.8 | 0.7 | 0.4 | 0.7 | 0.8 | 0.7 | 0.6 | 0.7 | 0.7 | 0.7 | 0.6 | 0.8 | 0.4 | 0.3 | 0.6 | 0.7 | 0.7 | $\Sigma \mathrm{Xt}$ | $\Sigma \mathrm{Xt2}$ |
| q | 0.2 | 0.2 | 0.2 | 0.3 | 0.4 | 0.6 | 0.2 | 0.3 | 0.2 | 0.4 | 0.6 | 0.3 | 0.2 | 0.3 | 0.4 | 0.3 | 0.3 | 0.3 | 0.4 | 0.2 | 0.6 | 0.8 | 0.4 | 0.3 | 0.3 |  |  |
| Pq | $\begin{array}{\|c} \hline 0.1 \\ 6 \end{array}$ | 0.16 | 0.16 | 0.21 | 0.28 | 0.3 | 0.18 | $\begin{gathered} \hline 0.2 \\ 1 \end{gathered}$ | $\begin{gathered} 0.1 \\ 6 \end{gathered}$ | 0.28 | 0.24 | 0.21 | 0.16 | 0.21 | 0.24 | $\begin{gathered} 0.2 \\ 1 \\ \hline \end{gathered}$ | $\begin{gathered} 0.2 \\ 1 \\ \hline \end{gathered}$ | $\begin{gathered} 0.2 \\ 1 \\ \hline \end{gathered}$ | $\begin{gathered} 0.2 \\ 4 \\ \hline \end{gathered}$ | $\begin{gathered} \hline 0.1 \\ 6 \\ \hline \end{gathered}$ | 0.24 | 0,24 | $\begin{gathered} 0.2 \\ 4 \end{gathered}$ | $\begin{gathered} 0.2 \\ 1 \end{gathered}$ | 0.2 <br> 1 |  |  |

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 | $\Sigma \mathrm{Xt}$ | $\Sigma \mathbf{X t}{ }^{2}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1 | 1 | 1 | 0 | 1 | 1 | 0 | 0 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 20 | 400 |
| 2 | 1 | 0 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 19 | 361 |
| 3 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 0 | 0 | 1 | 1 | 0 | 1 | 1 | 1 | 0 | 0 | 17 | 289 |
| 4 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 21 | 441 |
| 5 | 0 | 1 | 1 | 1 | 0 | 1 | 0 | 1 | 1 | 1 | 0 | 1 | 1 | 0 | 0 | 1 | 1 |  | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 18 | 324 |
| 6 | 1 | 1 | 0 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 20 | 400 |
| 7 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 21 | 441 |
| 8 | 1 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 1 | 1 | 0 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 16 | 256 |
| 9 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 0 | 0 | 1 | 1 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 1 | 0 | 15 | 225 |
| 10 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 1 | 1 | 21 | 491 |
| 11 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 0 | 22 | 484 |
| 12 | 0 | 0 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 0 | 1 | 1 | 12 | 144 |
| 13 | 1 | 1 | 0 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 1 | 10 | 100 |
| 14 | 1 | 1 | 1 | 1 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 0 | 1 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 0 | 0 | 16 | 196 |
| 15 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 0 | 1 | 1 | 22 | 484 |
| 16 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 0 | 1 | 1 | 0 | 20 | 400 |
| 17 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 1 | 1 | 0 | 1 | 0 | 0 | 1 | 1 | 0 | 1 | 10 | 100 |
| 18 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 0 | 1 | 1 | 1 | 0 | 19 | 361 |
| 19 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 21 | 441 |
| 20 | 1 | 0 | 1 | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 10 | 100 |
| 21 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 23 | 529 |
| 22 | 1 | 1 | 0 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 21 | 491 |
| 23 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 0 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 19 | 361 |
| 24 | 1 | 0 | 1 | 1 | 1 | 1 | 0 | 0 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 20 | 400 |
| 25 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 22 | 484 |


| $\mathbf{2 6}$ | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 19 | 361 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $\mathbf{2 7}$ | 1 | 1 | 0 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 22 | 484 |
| $\mathbf{2 8}$ | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 9 | 81 |
| $\mathbf{2 9}$ | 1 | 1 | 1 | 0 | 1 | 0 | 1 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 1 | 15 | 225 |
| $\mathbf{3 0}$ | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 15 | 225 |
| $\mathbf{N = 3 0}$ | 24 | 24 | 23 | 22 | 21 | 21 | 20 | 21 | 20 | 23 | 23 | 20 | 20 | 20 | 22 | 18 | 23 | 20 | 21 | 20 | 21 | 20 | 19 | 23 | 23 | 353 | 9879 |
| $\mathbf{P}$ | 0.8 | 0.8 | 0.7 | 0.7 | 0.7 | 0.7 | 0.7 | 0.7 | 0.6 | 0.7 | 0.7 | 0.6 | 0.6 | 0.6 | 0.7 | 0.6 | 0.7 | 0.6 | 0.7 | 0.6 | 0.7 | 0.6 | 0.6 | 0.7 | 0.7 | $\Sigma \mathbf{X t}$ | $\sum \mathbf{X} \mathbf{t}^{2}$ |
| $\mathbf{q}$ | 0.1 | 0.2 | 0.2 | 0.2 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.2 | 0.2 | 0.3 | 0.3 | 0.3 | 0.3 | 0.4 | 0.2 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.2 | 0.2 |  |  |
| $\mathbf{P q}$ | 0.0 | 0.16 | 0.14 | 0.14 | 0.21 | 0.2 | 0.21 | 0.2 | 0.1 | 0.14 | 0.14 | 0.18 | 0.18 | 0.18 | 0.21 | 0.2 | 0.1 | 0.0 |  |  |  |  |  |  |  |  |  |

## APPENDIX 10

Calculation of $r_{\text {pbi }}=\frac{M_{p}-M_{t}}{S D_{t}} \sqrt{\frac{p}{q}}$
A. Calculation of Post-test

1. Mean score from score total $\left(M_{t}\right)$

$$
\begin{aligned}
& \mathrm{M}_{\mathrm{t}}=\frac{\sum \mathrm{x}_{\mathrm{t}}}{\mathrm{~N}} \\
& \mathrm{M}_{\mathrm{t}}=\frac{535}{30}=17.83
\end{aligned}
$$

2. Standard Deviation $\left(S D_{t}\right)$
$\mathrm{SD}_{\mathrm{t}}=\sqrt{\frac{\sum \mathrm{X}_{\mathrm{t}}{ }^{2}}{\mathrm{~N}}-\left(\frac{\sum \mathrm{X}_{\mathrm{t}}}{\mathrm{N}}\right)^{2}}$
$\mathrm{SD}_{\mathrm{t}}=\sqrt{\frac{9879}{30}-\left(\frac{535}{30}\right)^{2}}$
$S D_{t}=\sqrt{329.3-17.83^{2}}$
$\mathrm{SD}_{\mathrm{t}}=\sqrt{329.3-317.9}$
$\mathrm{SD}_{\mathrm{t}}=\sqrt{11.4}=3.37$
3. Mean Score $\left(M_{p}\right)$

Item 1
$\mathrm{M}_{\mathrm{pl}}=\frac{\text { total score of students'score that true item answer }}{}$
$\mathrm{M}_{\mathrm{pl}}=\frac{20+19+17+21+20+21+16+21+22+10+16+22+20+19+21+10+21+19+20+22+19+22+15+15}{24}$
$\mathrm{M}_{\mathrm{pl}}=\frac{446}{24}=18.58$

Item 2
$\mathrm{M}_{\mathrm{pl}}=\frac{\text { total score of students' score that true item answer }}{\mathrm{n} 2}$
$\mathrm{M}_{\mathrm{pl}} \frac{20+17+18+20+21+16+15+21+22+10+16+22+20+10+19+21+23+21+19+22+19+22+15+15}{24}$
$\mathrm{M}_{\mathrm{pl}}=\frac{463}{24}=19.29$

Item 3
$\mathrm{M}_{\mathrm{pl}}=\xrightarrow[\text { total score of students' score that true item answer }]{ }$ n3
$\mathrm{M}_{\mathrm{pl}}=\frac{19+17+21+18+21+15+21+22+12+16+22+20+19+21+10+23+19+20+22+19+15+15}{23}$
$\mathrm{M}_{\mathrm{pl}}=\frac{407}{23}=17.69$

Item 4
$\mathrm{M}_{\mathrm{pl}=}$ total score of students'score that true item answer
$\mathrm{M}_{\mathrm{pl}=} \frac{20+19+21+18+20+21+15+21+22+12+16+22+20+19+23+19+20+22+21+22+9+15}{22}$
$\mathrm{M}_{\mathrm{pl}}=\frac{427}{22}=19.40$
Item 5
$\mathrm{M}_{\mathrm{pl}}=\frac{\text { total score of students'score that true item answer }}{\mathrm{n} 5}$
$\mathrm{M}_{\mathrm{pl}=} \frac{20+19+17+21+21+16+15+21+22+12+10+20+19+21+10+23+19+20+22+19+15}{21}$ 21
$\mathrm{M}_{\mathrm{pl}}=\frac{401}{21}=19.09$
Item 6
$\mathrm{M}_{\mathrm{pl}}=\underline{\text { total score of students'score that true item answer }}$
$\mathrm{M}_{\mathrm{pl}}=\frac{19+17+21+18+20+15+21+22+12+16+22+20+21+10+23+21+20+22+19+22+15}{21}$
$\mathrm{M}_{\mathrm{pl}}=\frac{417}{21}=19.85$
Item 7
$\mathrm{M}_{\mathrm{pl}}=\frac{\text { total score of students'score that true item answer }}{\mathrm{n} 7}$
$\mathrm{M}_{\mathrm{pl}}=\frac{19+17+21+20+21+15+22+10+22+20+19+21+23+21+19+22+19+22+15+15}{20}$
$\mathrm{M}_{\mathrm{pl}}=\frac{382}{20}=19.15$

Item 8
$\mathrm{M}_{\mathrm{pl}} \xlongequal{\text { total score of students' score that true item answer }}$
$\mathrm{M}_{\mathrm{pl}}=\frac{20+19+18+20+21+16+15+21+22+16+22+20+10+21+23+21+19+22+19+9+15}{21}$
$\mathrm{M}_{\mathrm{pl}}=\frac{389}{21}=18.52$
Item 9
$\mathrm{M}_{\mathrm{pl}}=\xrightarrow{\text { total score of students'score that true item answer }}$
$\mathrm{M}_{\mathrm{pl}}=\frac{20+17+18+21+16+15+21+22+10+22+20+19+20+23+21+20+22+19+22}{20}$
$\mathrm{M}_{\mathrm{pl}}=\frac{389}{20}=19.45$

## Item 10

$\mathrm{M}_{\mathrm{pl}}=\frac{\text { total score of students'score that true item answer }}{\mathrm{n} 10}$
$\mathrm{M}_{\mathrm{pl}}=\frac{20+19+17+21+18+20+16+21+22+12+16+22+19+22+21+10+23+21+19+22+19+22+15+15}{23}$
$\mathrm{M}_{\mathrm{pl}}=\frac{431}{23}=18.73$

Item 11
$\mathrm{M}_{\mathrm{pl}}=\frac{\text { total score of students'score that true item answer }}{\text { n11 }}$
$\mathrm{M}_{\mathrm{pl}}=\frac{20+19+17+21+20+21+15+21+22+12+22+20+10+19+21+23+21+19+20+19+22+15}{23}$
$\mathrm{M}_{\mathrm{pl}}=\frac{434}{23}=18.86$
Item 12
$\mathrm{M}_{\mathrm{pl} 1}=\frac{\text { total score of students'score that true item answer }}{\mathrm{n} 12}$
$\mathrm{M}_{\mathrm{pl}}=\frac{19+17+21+18+21+16+21+22+10+22+20+19+21+23+21+19+20+19+22+9}{20}$
$\mathrm{M}_{\mathrm{pl}}=\frac{380}{20}=19.00$
Item 13
$\mathrm{M}_{\mathrm{pl}=} \frac{\text { total score of students' score that true item answer }}{\mathrm{n} 13}$
$\mathrm{M}_{\mathrm{pl}}=\frac{20+19+21+18+20+21+21+22+16+22+10+21+10+23+20+22+19+22+15}{20}$
$M_{p l}=\frac{362}{20}=18.1$

## Item 14

$\mathrm{M}_{\mathrm{pl}}=\frac{\text { total score of students' score that true item answer }}{\mathrm{n} 14}$
$\mathrm{M}_{\mathrm{pl}}=\frac{20+17+21+20+21+16+15+21+22+16+22+20+19+21+19+20+22+22+9}{20}$
$\mathrm{M}_{\mathrm{pl}}=\frac{384}{20}=19.2$

Item 15
$\mathrm{M}_{\mathrm{pl}}=\frac{\text { total score of students'score that true item answer }}{\mathrm{n} 15}$
$\mathrm{M}_{\mathrm{pl}}=\frac{20+19+17+21+16+15+21+22+12+16+22+20+19+21+10+23+19+20+22+22+15+15}{22}$
$\mathrm{M}_{\mathrm{pl}}=\frac{407}{22}=18.50$

## Item 16

$\mathrm{M}_{\mathrm{pl}}=\frac{\text { total score of students' score that true item answer }}{\mathrm{n} 16}$
$\mathrm{M}_{\mathrm{pl}}=\frac{20+19+21+18+20+15+21+22+22+10+19+23+21+19+22+19+22+15}{18}$
$\mathrm{M}_{\mathrm{pl}}=\frac{348}{18}=19.33$

## Item 17

$\mathrm{M}_{\mathrm{pl}}=\frac{\text { total score of students' score that true item answer }}{\text { n17 }}$
$\mathrm{M}_{\mathrm{pl}}=\frac{20+21+18+20+21+16+21+22+12+16+22+20+10+19+21+10+23+19+20+19+22+12+15}{23}$
$\mathrm{M}_{\mathrm{pl}}=\frac{422}{23}=18.34$

## Item 18

$\mathrm{M}_{\mathrm{pl} \mathrm{I}} \frac{\text { total score of students'score that true item answer }}{\mathrm{n} 18}$
$\mathrm{M}_{\mathrm{pl}}=\frac{20+19+17+20+21+16+21+22+10+16+22+19+21+23+21+20+22+22+9+15}{20}$
$\mathrm{M}_{\mathrm{pl}}=\frac{376}{20}=18.80$

Item 19
$\mathrm{M}_{\mathrm{pl}}=\frac{\text { total score of students'score that true item answer }}{\text { n19 }}$
$\mathrm{M}_{\mathrm{pl}}=\frac{19+17+21+18+20+21+21+22+12+22+20+10+21+23+21+19+20+22+22+9+15}{21}$
$\mathrm{M}_{\mathrm{pl}}=\frac{395}{21}=18.80$

## Item 20

$\mathrm{M}_{\mathrm{pl} 1}=\frac{\text { total score of students'score that true item answer }}{\mathrm{n} 20}$
$\mathrm{M}_{\mathrm{pl}}=\frac{19+21+18+20+21+15+21+16+22+20+19+21+23+21+20+22+19+22+15+15}{20}$
$\mathrm{M}_{\mathrm{pl}}=\frac{389}{20}=19.45$
Item 21
$\mathrm{M}_{\mathrm{pl}}=\underline{\text { total score of students'score that true item answer }}$
$\mathrm{M}_{\mathrm{pl}=} \frac{20+19+17+21+18+20+21+16+22+12+10+16+20+21+23+21+19+20+22+22+15}{21}$
$\mathrm{M}_{\mathrm{pl}}=\frac{395}{21}=18.80$

## Item 22

$\mathrm{M}_{\mathrm{pl}}=\frac{\text { total score of students' score that true item answer }}{\mathrm{n} 20}$
$\mathrm{M}_{\mathrm{pl}}=\frac{20+19+17+21+18+20+21+16+22+16+22+10+19+21+23+21+19+20+22+22}{20}$
$\mathrm{M}_{\mathrm{pl}}=\frac{388}{20}=19.40$
Item 23
$\mathrm{M}_{\mathrm{pl}}=\underline{\text { total score of students'score that true item answer }}$
$\mathrm{M}_{\mathrm{pl}}=\frac{19+17+21+18+20+16+15+22+16+20+10+19+23+21+20+22+19+22+15+15}{19}$
$\mathrm{M}_{\mathrm{pl}}=\frac{370}{19}=19.47$
Item 24
$\mathrm{M}_{\mathrm{pl} I}=\frac{\text { total score of students'score that true item answer }}{\mathrm{n} 24}$
$\mathrm{M}_{\mathrm{pl}}=\frac{20+19+21+18+20+21+16+15+21+12+10+22+20+19+21+10+23+21+19+20+22+22}{23}$
$\mathrm{M}_{\mathrm{pl}}=\frac{434}{23}=18.86$
Item 25
$\mathrm{M}_{\mathrm{pl}}=\frac{\text { total score of students' } \text { score that true item answer }}{\mathrm{n} 25}$
$\mathrm{M}_{\mathrm{pl}}=\frac{20+19+21+18+20+21+16+21+12+10+22+10+21+23+21+19+20+22+19+22+9+15+15}{23}$
$\mathrm{M}_{\mathrm{pl}}=\frac{414}{23}=18.08$
4. Calculation of the formulation $r_{p b i}=\frac{M_{p-M_{t}}}{S D_{t}} \sqrt{\frac{p}{q}}$

Item 1
$r_{p b i}=\frac{M_{p-M_{t}}}{S D_{t}} \sqrt{\frac{p}{q}}$
$\mathrm{r}_{\mathrm{pbi}}=\frac{18.58-17.83}{3.37} \sqrt{\frac{0.8}{0.1}}$
$\mathrm{r}_{\mathrm{pbi}}=\frac{0.75}{3.37} \sqrt{8}$
$\mathrm{r}_{\mathrm{pbi}}=0.222 \times 2.82=0.626$
Item 2
$\mathrm{r}_{\mathrm{pbi}}=\frac{\mathrm{M}_{\mathrm{p}-\mathrm{M}_{\mathrm{t}}}}{\mathrm{SD}_{\mathrm{t}}} \sqrt{\frac{\mathrm{p}}{\mathrm{q}}}$
$\mathrm{r}_{\mathrm{pbi}}=\frac{19.29-17.83}{3.37} \sqrt{\frac{0.8}{0.2}}$
$\mathrm{r}_{\mathrm{pbi}}=\frac{1.46}{3.37} \sqrt{4}$
$\mathrm{r}_{\mathrm{pbi}}=0.433 \times 2=0.866$

> Item 3
> $\mathrm{r}_{\mathrm{pbi}}=\frac{\mathrm{M}_{\mathrm{p}-\mathrm{M}_{\mathrm{t}}}}{S D_{\mathrm{t}}} \sqrt{\frac{\mathrm{p}}{\mathrm{q}}}$
> $\mathrm{r}_{\mathrm{pbi}}=\frac{17.69-17.83}{3.37} \sqrt{\frac{0.7}{0.2}}$
> $\mathrm{r}_{\mathrm{pbi}}=\frac{1.14}{3.37} \sqrt{3.5}$
$\mathrm{r}_{\mathrm{pbi}}=0.041 \times 1.87=0.076$
Item 4

$$
\begin{aligned}
& \mathrm{r}_{\mathrm{pbi}}=\frac{\mathrm{M}_{\mathrm{p}-\mathrm{M}_{\mathrm{t}}}}{S D_{\mathrm{t}}} \sqrt{\frac{\mathrm{p}}{\mathrm{q}}} \\
& \mathrm{r}_{\mathrm{pbi}}=\frac{19.40-17.83}{3.37} \sqrt{\frac{0.7}{0.2}} \\
& \mathrm{r}_{\mathrm{pbi}}=\frac{1.57}{3.37} \sqrt{3.5}
\end{aligned}
$$

$$
\mathrm{r}_{\mathrm{pbi}}=0.465 \times 1.87=0.869
$$

Item 5
$r_{p b i}=\frac{M_{p-M_{t}}}{S D_{t}} \sqrt{\frac{p}{q}}$
$\mathrm{r}_{\mathrm{pbi}}=\frac{19.09-17.83}{3.37} \sqrt{\frac{0.7}{0.3}}$
$\mathrm{r}_{\mathrm{pbi}}=\frac{1.26}{3.37} \sqrt{2.33}$
$\mathrm{r}_{\mathrm{pbi}}=0.373 \times 1.52=0.566$

$$
\begin{aligned}
& \text { Item } 6 \\
& r_{p b i}=\frac{M_{p-M_{t}}}{S D_{t}} \sqrt{\frac{p}{q}} \\
& r_{p b i}=\frac{19.85-17.83}{3.37} \sqrt{\frac{0.7}{0.3}} \\
& r_{\mathrm{pbi}}=\frac{2.02}{3.37} \sqrt{2.33} \\
& r_{p b i}=0.599 \times 1.52=0.910
\end{aligned}
$$

## Item 7

$\mathrm{r}_{\mathrm{pbi}}=\frac{\mathrm{M}_{\mathrm{p}-\mathrm{M}_{\mathrm{t}}}}{\mathrm{SD}_{\mathrm{t}}} \sqrt{\frac{\mathrm{p}}{\mathrm{q}}}$
$\mathrm{r}_{\mathrm{pbi}}=\frac{19.15-17.83}{3.37} \sqrt{\frac{0.7}{0.3}}$
$\mathrm{r}_{\mathrm{pbi}}=\frac{1.32}{3.37} \sqrt{2.33}$
$\mathrm{r}_{\mathrm{pbi}}=0.391 \times 1.52=0.594$

## Item 8

$$
\begin{aligned}
& \mathrm{r}_{\mathrm{pbi}}=\frac{\mathrm{M}_{\mathrm{p}-\mathrm{M}_{\mathrm{t}}}}{\mathrm{SD}_{\mathrm{t}}} \sqrt{\frac{\mathrm{p}}{\mathrm{q}}} \\
& \mathrm{r}_{\mathrm{pbi}}=\frac{18.52-17.83}{3.37} \sqrt{\frac{0.7}{0.3}} \\
& \mathrm{r}_{\mathrm{pbi}}=\frac{0.69}{3.37} \sqrt{2.33}
\end{aligned}
$$

$$
\mathrm{r}_{\mathrm{pbi}}=0.204 \times 1.52=0.310
$$Item 9

$$
\begin{aligned}
& \mathrm{r}_{\mathrm{pbi}}=\frac{\mathrm{m}_{\mathrm{p}-\mathrm{m}_{\mathrm{t}}}^{S \mathrm{~S}_{\mathrm{t}}} \sqrt{\frac{\mathrm{p}}{\mathrm{q}}}}{} \\
& \mathrm{r}_{\mathrm{pbi}}=\frac{19.45-17.83}{3.37} \sqrt{\frac{0.6}{0.3}} \\
& \mathrm{r}_{\mathrm{pbi}}=\frac{1.62}{3.37} \\
& \mathrm{r}_{\mathrm{pbi}}=0.480 \times 1.41=0.676
\end{aligned}
$$

## Item 10

$r_{p b i}=\frac{M_{p-M_{t}}}{S D_{t}} \sqrt{\frac{p}{q}}$
$\mathrm{r}_{\mathrm{pbi}}=\frac{18.73-17.83}{3.37} \sqrt{\frac{0.7}{0.2}}$
$\mathrm{r}_{\mathrm{pbi}}=\frac{0.9}{3.37} \sqrt{2.33}$
$\mathrm{r}_{\mathrm{pbi}}=0.267 \times 1.52=0.405$

## Item 11

$r_{p b i}=\frac{M_{p-M_{t}}}{S D_{t}} \sqrt{\frac{p}{q}}$
$\mathrm{r}_{\text {pbi }}=\frac{18.86-17.83}{3.37} \sqrt{\frac{0.7}{0.2}}$
$\mathrm{r}_{\mathrm{pbi}}=\frac{1.03}{3.37} \sqrt{3.5}$
$\mathrm{r}_{\mathrm{pbi}}=0.305 \times 1.87=0.570$
Item 12
$r_{p b i}=\frac{M_{p-M_{t}}}{S D_{t}} \sqrt{\frac{p}{q}}$

$$
\begin{aligned}
& \mathrm{r}_{\mathrm{pbi}}=\frac{19-17.83}{3.37} \sqrt{\frac{0.6}{0.3}} \\
& \mathrm{r}_{\mathrm{pbi}}=\frac{1.17}{3.37} \sqrt{2} \\
& \mathrm{r}_{\mathrm{pbi}}=0.347 \times 1.41=0.489
\end{aligned}
$$

## Item 13

$r_{p b i}=\frac{M_{p-M_{t}}}{S D_{t}} \sqrt{\frac{p}{q}}$
$\mathrm{r}_{\mathrm{pbi}}=\frac{18.51-17.83}{3.37} \sqrt{\frac{0.6}{0.3}}$
$\mathrm{r}_{\mathrm{pbi}}=\frac{0.68}{3.37} \sqrt{2}$
$\mathrm{r}_{\mathrm{pbi}}=0.201 \times 1.41=0.283$

## Item 14

$\mathrm{r}_{\mathrm{pbi}}=\frac{\mathrm{M}_{\mathrm{p}-\mathrm{M}_{\mathrm{t}}}}{\mathrm{SD} \mathrm{D}_{\mathrm{t}}} \sqrt{\frac{\mathrm{p}}{\mathrm{q}}}$
$\mathrm{r}_{\mathrm{pbi}}=\frac{19.2-17.83}{3.37} \sqrt{\frac{0.6}{0.3}}$
$\mathrm{r}_{\mathrm{pbi}}=\frac{1.37}{3.37} \sqrt{2}$
$\mathrm{r}_{\mathrm{pbi}}=0.406 \times 1.41=0.572$

Item 15
$\mathrm{r}_{\mathrm{pbi}}=\frac{\mathrm{M}_{\mathrm{p}-\mathrm{M}_{\mathrm{t}}}}{\mathrm{SD}_{\mathrm{t}}} \sqrt{\frac{\mathrm{p}}{\mathrm{q}}}$
$\mathrm{r}_{\mathrm{pbi}}=\frac{18.50-17.83}{3.37} \sqrt{\frac{0.7}{0.2}}$
$\mathrm{r}_{\mathrm{pbi}}=\frac{0.67}{3.37} \sqrt{3.5}$
$\mathrm{r}_{\mathrm{pbi}}=0.198 \times 1.87=0.370$

> Item 16
> $\mathrm{r}_{\mathrm{pbi}}=\frac{\mathrm{M}_{\mathrm{p}-\mathrm{M}_{\mathrm{t}}}}{\mathrm{SD}_{\mathrm{t}}} \sqrt{\frac{\mathrm{p}}{\mathrm{q}}}$
> $\mathrm{r}_{\mathrm{pbi}}=\frac{19.33-17.83}{3.37} \sqrt{\frac{0.6}{0.4}}$
> $\mathrm{r}_{\mathrm{pbi}}=\frac{1.5}{3.37} \sqrt{1.5}$
> $\mathrm{r}_{\mathrm{pbi}}=0.445 \times 1.22=0.542$

## Item 17

$r_{p b i}=\frac{m_{p-M_{t}}}{S D_{t}} \sqrt{\frac{\mathrm{p}}{\mathrm{q}}}$
$\mathrm{r}_{\mathrm{pbi}}=\frac{18.34-17.83}{3.37} \sqrt{\frac{0.7}{0.2}}$
$\mathrm{r}_{\mathrm{pbi}}=\frac{0.51}{3.37} \sqrt{3.5}$
$\mathrm{r}_{\mathrm{pbi}}=0.151 \times 1.87=0.282$

## Item 18

$$
\begin{aligned}
& \mathrm{r}_{\mathrm{pbi}}=\frac{\mathrm{M}_{\mathrm{p}-\mathrm{M}_{\mathrm{t}}}}{\mathrm{SD}} \sqrt{\frac{\mathrm{p}}{\mathrm{q}}} \\
& \mathrm{r}_{\mathrm{pbi}}=\frac{18.80-17.83}{3.37} \sqrt{\frac{0.6}{0.3}} \\
& \mathrm{r}_{\mathrm{pbi}}=\frac{0.97}{3.37} \sqrt{2} \\
& \mathrm{r}_{\mathrm{pbi}}=0.287 \times 1.41=0.404
\end{aligned}
$$

## Item 19

$$
\begin{aligned}
& \mathrm{r}_{\mathrm{pbi}}=\frac{\mathrm{m}_{\mathrm{p}-\mathrm{M}_{\mathrm{t}}}^{S D_{\mathrm{t}}} \sqrt{\frac{\mathrm{p}}{\mathrm{q}}}}{\mathrm{r}_{\mathrm{pbi}}=\frac{18.80-17.83}{3.37} \sqrt{\frac{0.7}{0.3}}} \\
& \mathrm{r}_{\mathrm{pbi}}=\frac{0.97}{3.37} \sqrt{2.33} \\
& \mathrm{r}_{\mathrm{pbi}}=0.287 \times 1.5=0.430
\end{aligned}
$$

Item 20

$$
\begin{aligned}
& \mathrm{r}_{\mathrm{pbi}}=\frac{\mathrm{M}_{\mathrm{p}-\mathrm{M}_{\mathrm{t}}}}{\mathrm{SD}_{\mathrm{t}}} \sqrt{\frac{\mathrm{p}}{\mathrm{q}}} \\
& \mathrm{r}_{\mathrm{pbi}}=\frac{19.45-17.83}{3.37} \sqrt{\frac{0.6}{0.3}} \\
& \mathrm{r}_{\mathrm{pbi}}=\frac{1.62}{3.37} \sqrt{2}
\end{aligned}
$$

$$
\mathrm{r}_{\mathrm{pbi}}=0.480 \times 1.41=0.676
$$

Item 21
$r_{p b i}=\frac{M_{p-M_{t}}}{S D_{t}} \sqrt{\frac{p}{q}}$
$\mathrm{r}_{\mathrm{pbi}}=\frac{18.80-17.83}{3.37} \sqrt{\frac{0.7}{0.3}}$
$\mathrm{r}_{\mathrm{pbi}}=\frac{0.97}{3.37} \sqrt{2.33}$
$\mathrm{r}_{\mathrm{pbi}}=0.287 \times 1.5=0.430$
Item 22

$$
\begin{aligned}
& \mathrm{r}_{\mathrm{pbi}}=\frac{\mathrm{M}_{\mathrm{p}-\mathrm{m}_{\mathrm{t}}}}{\mathrm{SD}} \sqrt{\frac{\mathrm{p}}{\mathrm{q}}} \\
& \mathrm{r}_{\mathrm{pbi}}=\frac{19.40-17.83}{3.37} \sqrt{\frac{0.6}{0.3}} \\
& \mathrm{r}_{\mathrm{pbi}}=\frac{1.57}{3.37} \sqrt{2} \\
& \mathrm{r}_{\mathrm{pbi}}=0.465 \times 1.41=0.655
\end{aligned}
$$

## Item 23

$r_{p b i}=\frac{M_{p-M_{t}}}{S D_{t}} \sqrt{\frac{p}{q}}$
$\mathrm{r}_{\mathrm{pbi}}=\frac{19.47-17.83}{3.37} \sqrt{\frac{0.6}{0.3}}$
$\mathrm{r}_{\mathrm{pbi}}=\frac{1.64}{3.37} \sqrt{2}$
$\mathrm{r}_{\mathrm{pbi}}=0.486 \times 1.41=0.685$
Item 24
$r_{p b i}=\frac{M_{p-M_{t}}}{S D_{t}} \sqrt{\frac{p}{q}}$
$\mathrm{r}_{\mathrm{pbi}}=\frac{18.86-17.83}{3.37} \sqrt{\frac{0.7}{0.2}}$
$\mathrm{r}_{\mathrm{pbi}}=\frac{1.03}{3.37} \sqrt{3.5}$
$\mathrm{r}_{\mathrm{pbi}}=0.305 \times 1.87=0.570$
Item 25
$r_{p b i}=\frac{M_{p-M_{t}}}{S D_{t}} \sqrt{\frac{p}{q}}$
$\mathrm{r}_{\mathrm{pbi}}=\frac{18.08-17.83}{3.37} \sqrt{\frac{0.7}{0.2}}$
$\mathrm{r}_{\mathrm{pbi}}=\frac{0.25}{3.37} \sqrt{3.5}$
$\mathrm{r}_{\mathrm{pbi}}=0.074 \times 1.87=0.138$

## B. Calculation of Pre-test

5. Mean score from score total $\left(M_{t}\right)$

$$
\begin{aligned}
& \mathrm{M}_{\mathrm{t}}=\frac{\sum \mathrm{X}_{\mathrm{t}}}{\mathrm{~N}} \\
& \mathrm{M}_{\mathrm{t}}=\frac{502}{30}=16.73
\end{aligned}
$$

6. Standard Deviation $\left(S D_{t}\right)$
$\mathrm{SD}_{\mathrm{t}}=\sqrt{\frac{\sum \mathrm{X}_{\mathrm{t}^{2}}}{\mathrm{~N}}-\left(\frac{\sum \mathrm{X}_{\mathrm{t}}}{\mathrm{N}}\right)^{2}}$
$\mathrm{SD}_{\mathrm{t}}=\sqrt{\frac{9088}{30}-\left(\frac{502}{30}\right)^{2}}$
$\mathrm{SD}_{\mathrm{t}}=\sqrt{302.9-16.73^{2}}$
$\mathrm{SD}_{\mathrm{t}}=\sqrt{302.9-279.8}$
$\mathrm{SD}_{\mathrm{t}}=\sqrt{23}=4.79$
7. Mean Score $\left(\mathrm{M}_{\mathrm{p}}\right)$

Item 1
$\mathrm{M}_{\mathrm{pl}}=\frac{\text { total score of students' score that true item answer }}{}$
$\mathrm{M}_{\mathrm{p} \mid}=\frac{22+20+21+8+21+12+15+9+22+16+19+22+20+20+20+17+21+21+18+19}{}$
$\mathrm{Mpl}_{\mathrm{pl}}=\frac{394}{23}=17.13$

Item 2
$\mathrm{M}_{\mathrm{pl}}=\frac{\text { total score of students'score that true item answer }}{\text { n2 }}$
$\mathrm{M}_{\mathrm{pl}} \frac{22+20+21+19+8+21+15+12+18+15+9+16+19+22+20+14+20+20+17+21+21+18+19}{23}$
$\mathrm{M}_{\mathrm{pl}}=\frac{408}{23}=17.73$

Item 3
$\mathrm{M}_{\mathrm{pl}}=\frac{\text { total score of students'score that true item answer }}{\mathrm{n} 3}$
$\mathrm{M}_{\mathrm{pl}}=\frac{22+21+19+21+15+18+9+22+16+19+22+20+17+14+20+17+20+17+17+21+5+21+18+19}{24}$
$\mathrm{M}_{\mathrm{pl}}=\frac{430}{24}=17.91$

## Item 4

$\mathrm{M}_{\mathrm{pl}}=\frac{\text { total score of students'score that true item answer }}{\mathrm{n} 4}$
$\mathrm{M}_{\mathrm{pl}}=\frac{22+20+21+19+8+21+22+20+17+14+20+17+20+17+9+21+12+21+19}{21}$
$\mathrm{M}_{\mathrm{pl}}=\frac{340}{21}=16.19$
Item 5
$\mathrm{M}_{\mathrm{pl}}=\frac{\text { total score of students'score that true item answer }}{\text { n5 }}$
$\mathrm{M}_{\mathrm{pl}}=\frac{22+20+19+12+18+15+22+16+19+22+17+14+20+20+17+21+12+21+18+19}{20}$
$\mathrm{M}_{\mathrm{pl}}=\frac{364}{20}=18.2$
Item 6
$\mathrm{M}_{\mathrm{pl} 1}=\frac{\text { total score of students'score that true item answer }}{\mathrm{n} 6}$
$\mathrm{M}_{\mathrm{pl}=} \frac{21+21+15+22+16+22+20+17+20+20+17+21+19}{13}$
$\mathrm{M}_{\mathrm{pl}}=\frac{251}{13}=19.30$

Item 7
$\mathrm{M}_{\mathrm{pl}}=\frac{\text { total score of students'score that true item answer }}{\mathrm{n} 7}$
$\mathrm{M}_{\mathrm{pl}}=\frac{22+20+21+19+21+15+12+18+9+22+16+19+22+20+17+14+20+17+20+17+17+5+21+21+18+19}{26}$
$\mathrm{M}_{\mathrm{pl}}=\frac{462}{26}=17.76$

## Item 8

$\mathrm{M}_{\mathrm{pl}=} \frac{\text { total score of students' score that true item answer }}{\mathrm{n} 8}$
$\mathrm{M}_{\mathrm{pl}}=\frac{22+20+21+19+8+21+15+12+18+22+16+19+22+20+20+20+17+21+15+21+18+19}{22}$
$\mathrm{M}_{\mathrm{pl}}=\frac{389}{22}=18$.

Item 9
$\mathrm{M}_{\mathrm{pl}}=\underline{\text { total score of students' score that true item answer }}$
$\mathrm{M}_{\mathrm{pl}}=\frac{22+20+21+21+15+18+15+9+16+19+22+20+17+14+20+17+20+17+21+12+21+18+19}{23}$
$\mathrm{M}_{\mathrm{pl}}=\frac{414}{23}=18$

Item 10
$\mathrm{M}_{\mathrm{pl}=} \frac{\text { total score of students'score that true item answer }}{\mathrm{n} 10}$
$\mathrm{M}_{\mathrm{pl}}=\frac{22+20+21+19+21+15+18+15+22+16+19+22+17+20+17+21+12+21+18+19}{20}$
$\mathrm{M}_{\mathrm{pl}}=\frac{375}{20}=18.75$

## Item 11

$\mathrm{M}_{\mathrm{pl}}=\frac{\text { total score of students' score that true item answer }}{\mathrm{n} 11}$
$\mathrm{M}_{\mathrm{pl}}=\frac{22+20+15+22+19+22+20+20+17+17+21+12+21}{13}$
$\mathrm{M}_{\mathrm{pl}}=\frac{434}{13}=19.07$

Item 12
$\mathrm{M}_{\mathrm{pl}=} \frac{\text { total score of students' score that true item answer }}{\mathrm{n} 12}$
$\mathrm{M}_{\mathrm{pl}}=\frac{22+20+21+19+21+15+18+15+22+16+19+22+17+14+20+17+20+17+17+5+21}{21}$
$\mathrm{M}_{\mathrm{pl}}=\frac{378}{21}=18.00$
Item 13
$\mathrm{M}_{\mathrm{pl}=} \frac{\text { total score of students' score that true item answer }}{\mathrm{n} 13}$
$\mathrm{M}_{\mathrm{pl}}=\frac{22+20+21+19+21+15+12+15+9+22+16+19+22+20+17+20+17+20+17+17+21+5+21+18+19}{25}$
$\mathrm{M}_{\mathrm{pl}}=\frac{445}{25}=17.8$

## Item 14

$\mathrm{M}_{\mathrm{pl}}=\underline{\text { total score of students'score that true item answer }}$
$\mathrm{M}_{\mathrm{pl}}=\frac{22+20+21+19+8+21+15+12+18+15+22+19+22+20+17+14+20+17+17+12+21+19}{22}$
$\mathrm{M}_{\mathrm{pl}}=\frac{391}{22}=17.77$

Item 15
$\mathrm{M}_{\mathrm{pl}=} \frac{\text { total score of students'score that true item answer }}{\mathrm{n} 15}$
$\mathrm{M}_{\mathrm{pl}}=\frac{22+21+19+21+12+18+15+22+22+20+14+20+20+17+17+21+18+19}{18}$
$\mathrm{M}_{\mathrm{pl}}=\frac{407}{18}=18.77$

## Item 16

$\mathrm{M}_{\mathrm{pl}}=\frac{\text { total score of students' score that true item answer }}{\mathrm{n} 16}$
$\mathrm{M}_{\mathrm{pl}}=\frac{22+20+21+19+21+15+18+15+22+19+22+20+17+20+17+21+21+18+19}{21}$
$\mathrm{M}_{\mathrm{pl}}=\frac{398}{21}=18.95$

## Item 17

$\mathrm{M}_{\mathrm{pl}}=\frac{\text { total score of students' score that true item answer }}{\text { n17 }}$
$\mathrm{M}_{\mathrm{pl}}=\frac{22+20+21+19+8+21+15+18+15+22+19+22+20+20+20+17+17+5+21+12+21+19}{22}$
$\mathrm{M}_{\mathrm{pl}}=\frac{394}{22}=17.68$

## Item 18

$\mathrm{M}_{\mathrm{pl} 1}=\frac{\text { total score of students'score that true item answer }}{\text { n18 }}$
$\mathrm{M}_{\mathrm{pl}}=\frac{22+20+21+19+21+12+18+15+22+16+19+22+20+20+17+20+17+17+5+21+21+12+21+18+19}{22}$
$\mathrm{M}_{\mathrm{pl}}=\frac{434}{22}=19.72$
Item 19
$\mathrm{M}_{\mathrm{pl}}=\frac{\text { total score of students'score that true item answer }}{\text { n19 }}$
$\mathrm{M}_{\mathrm{pl}}=\frac{22+20+21+1+21+15+12+18+15+9+22+16+14+20+17+20+17+12+18}{18}$
$\mathrm{M}_{\mathrm{pl}}=\frac{316}{18}=18.22$
Item 20
$\mathrm{M}_{\mathrm{pl} 1}=\frac{\text { total score of students'score that true item answer }}{\mathrm{n}^{20}}$
$\mathrm{M}_{\mathrm{pl}}=\frac{22+20+21+19+21+15+12+18+16+22+20+17+14+20+17+20+17+17+21+12+2118+19}{23}$
$\mathrm{M}_{\mathrm{pl}}=\frac{419}{23}=18.21$
Item 21
$\mathrm{M}_{\mathrm{pl} 1} \frac{\text { total score of students'score that true item answer }}{\mathrm{n} 21}$
$\mathrm{M}_{\mathrm{pl}}=\frac{21+8+22+20+17+17+17+5+21+5+12+21}{12}$
$\mathrm{M}_{\mathrm{pl}}=\frac{186}{12}=15,5$

## Item 22

$\mathrm{M}_{\mathrm{pl}}=\frac{\text { total score of students'score that true item answer }}{\mathrm{n} 20}$
$\mathrm{M}_{\mathrm{pl}}=\frac{8+22+20+17+17+17+21+18}{8}$
$\mathrm{M}_{\mathrm{pl}}=\frac{140}{8}=17.5$
Item 23
$\mathrm{M}_{\mathrm{pl}}=\frac{\text { total score of students'score that true item answer }}{\mathrm{n} 23}$
$\mathrm{M}_{\mathrm{pl}}=\frac{22+20+19+21+15+18+15+9+22+16+19+22+17+20+17+21+18+19}{18}$
$\mathrm{M}_{\mathrm{pl}}=\frac{330}{18}=18.33$
Item 24
$\mathrm{M}_{\mathrm{pl} 1}=\frac{\text { total score of students'score that true item answer }}{\mathrm{n} 24}$
$\mathrm{M}_{\mathrm{pl}=} \frac{22+20+21+19+21+15+12+18+19+22+19+22+20+17+20+17+20+17+21+21+18+19}{22}$
$\mathrm{M}_{\mathrm{pl}}=\frac{420}{22}=19.09$
Item 25
$\mathrm{M}_{\mathrm{pl}}=\xrightarrow[\text { total score of students'score that true item answer }]{ }$
$\mathrm{M}_{\mathrm{pl}}=\frac{22+20+21+19+21+12+18+22+16+19+22+20+17+20+17+20+17+17+21+5+12+21+18+19}{22}$
$\mathrm{M}_{\mathrm{pl}}=\frac{410}{22}=18.63$
8. Calculation of the formulation $r_{p b i}=\frac{M_{p-M_{t}}}{S D_{t}} \sqrt{\frac{p}{q}}$

## Item 1

$$
\mathrm{r}_{\mathrm{pbi}}=\frac{\mathrm{M}_{\mathrm{p}-\mathrm{M}_{\mathrm{t}}}}{S D_{\mathrm{t}}} \sqrt{\frac{\mathrm{p}}{\mathrm{q}}}
$$

$$
\mathrm{r}_{\mathrm{pbi}}=\frac{17.13-16.73}{4.79} \sqrt{\frac{0.8}{0.2}}
$$

$$
\mathrm{r}_{\mathrm{pbi}}=\frac{0.4}{4.79} \sqrt{4}
$$

$$
\mathrm{r}_{\mathrm{pbi}}=0.083 \times 2=0.166
$$

## Item 2

$r_{p b i}=\frac{M_{p-M_{t}}}{S D_{t}} \sqrt{\frac{p}{q}}$
$\mathrm{r}_{\mathrm{pbi}}=\frac{17.73-16.73}{4.79} \sqrt{\frac{0.8}{0.2}}$
$\mathrm{r}_{\mathrm{pbi}}=\frac{1}{4.79} \sqrt{4}$
$\mathrm{r}_{\mathrm{pbi}}=0.208 \times 2=0.416$
Item 3
$r_{p b i}=\frac{M_{p-M_{t}}}{S D_{t}} \sqrt{\frac{p}{q}}$
$\mathrm{r}_{\mathrm{pbi}}=\frac{17.91-16.73}{4.79} \sqrt{\frac{0.8}{0.2}}$
$\mathrm{r}_{\mathrm{pbi}}=\frac{1.18}{4.79} \sqrt{4}$
$\mathrm{r}_{\mathrm{pbi}}=0.246 \times 2=0.492$

## Item 4

$r_{p b i}=\frac{M_{p-M_{t}}}{S D_{t}} \sqrt{\frac{p}{q}}$
$\mathrm{r}_{\mathrm{pbi}}=\frac{16.19-16.73}{4.79} \sqrt{\frac{0.7}{0.3}}$
$\mathrm{r}_{\text {pbi }}=\frac{-0.54}{4.79} \sqrt{2.33}$
$\mathrm{r}_{\mathrm{pbi}}=-0.113 \mathrm{x} 1.52=-0.171$

## Item 5

$r_{p b i}=\frac{M_{p-M_{t}}}{S D_{t}} \sqrt{\frac{p}{q}}$
$\mathrm{r}_{\mathrm{pbi}}=\frac{18.2-16.73}{4.79} \sqrt{\frac{0.7}{0.4}}$

$$
\mathrm{r}_{\mathrm{pbi}}=\frac{1.47}{4.79} \sqrt{1.75}
$$

$\mathrm{r}_{\mathrm{pb} i}=0.306 \times 1.32=0.403$

## Item 6

$r_{p b i}=\frac{M_{p-M_{t}}}{S D_{t}} \sqrt{\frac{p}{q}}$
$\mathrm{r}_{\mathrm{pbi}}=\frac{19.30-16.73}{4.79} \sqrt{\frac{0.5}{0.6}}$
$\mathrm{r}_{\mathrm{pbi}}=\frac{2.57}{4.79} \sqrt{0.83}$
$\mathrm{r}_{\mathrm{pbi}}=0.536 \times 0.91=0.487$
Item 7
$\mathrm{r}_{\mathrm{pbi}}=\frac{\mathrm{M}_{\mathrm{p}-\mathrm{M}_{\mathrm{t}}}}{\mathrm{SD}} \mathrm{D}_{\mathrm{t}} \sqrt{\frac{\mathrm{p}}{\mathrm{q}}}$
$\mathrm{r}_{\mathrm{pbi}}=\frac{17.76-16.73}{4.79} \sqrt{\frac{0.9}{0.2}}$
$\mathrm{r}_{\mathrm{pbi}}=\frac{1.03}{4.79} \sqrt{4.5}$
$\mathrm{r}_{\mathrm{pbi}}=0.215 \times 2.1=0.451$

## Item 8

$r_{p b i}=\frac{M_{p-M_{t}}}{S D_{t}} \sqrt{\frac{p}{q}}$
$\mathrm{r}_{\mathrm{pbi}}=\frac{18.00-16.73}{4.79} \sqrt{\frac{0.7}{0.3}}$
$\mathrm{r}_{\mathrm{pbi}}=\frac{1.27}{4.79} \sqrt{2.33}$
$\mathrm{r}_{\mathrm{pb} i}=0.264 \times 1.52=0.401$

$$
\begin{aligned}
& \text { Item } 9 \\
& \mathrm{r}_{\mathrm{pbi}}=\frac{\mathrm{M}_{\mathrm{p}-\mathrm{M}_{\mathrm{t}}}^{S D_{\mathrm{t}}} \sqrt{\frac{\mathrm{p}}{\mathrm{q}}}}{} \\
& \mathrm{r}_{\mathrm{pbi}}=\frac{18.00-16.73}{4.79} \sqrt{\frac{0.8}{0.2}} \\
& \mathrm{r}_{\mathrm{pbi}}=\frac{1.27}{4.79} \sqrt{4}
\end{aligned}
$$

$$
\mathrm{r}_{\mathrm{pbi}}=0.265 \times 2=0.530
$$

## Item 10

$r_{p b i}=\frac{m_{p-m_{t}}}{S D_{t}} \sqrt{\frac{p}{q}}$
$\mathrm{r}_{\mathrm{pbi}}=\frac{18.75-16.73}{4.79} \sqrt{\frac{0.7}{0.4}}$
$\mathrm{r}_{\mathrm{pbi}}=\frac{2.02}{4.79} \sqrt{1.75}$
$\mathrm{r}_{\mathrm{pbi}}=0.421 \times 1.3=0.547$

## Item 11

$r_{p b i}=\frac{M_{p-M_{t}}}{S D_{t}} \sqrt{\frac{p}{q}}$
$\mathrm{r}_{\mathrm{pbi}}=\frac{19.07-16.73}{4.79} \sqrt{\frac{0.4}{0.6}}$
$\mathrm{r}_{\mathrm{pbi}}=\frac{2.34}{4.79} \sqrt{0.66}$
$\mathrm{r}_{\mathrm{pbi}}=0.488 \times 0.81=0.395$

## Item 12

$$
\begin{aligned}
& \mathrm{r}_{\mathrm{pbi}}=\frac{\mathrm{M}_{\mathrm{p}-\mathrm{M}_{\mathrm{t}}}}{S D_{\mathrm{t}}} \sqrt{\frac{\mathrm{p}}{\mathrm{q}}} \\
& \mathrm{r}_{\mathrm{pbi}}=\frac{18.00-16.73}{4.79} \sqrt{\frac{0.7}{0.3}} \\
& \mathrm{r}_{\mathrm{pbi}}=\frac{1.27}{4.79} \sqrt{2.33} \\
& \mathrm{r}_{\mathrm{pbi}}=0.265 \times 1.52=0.402
\end{aligned}
$$

## Item 13

$r_{p b i}=\frac{M_{p-M_{t}}}{S D_{t}} \sqrt{\frac{p}{q}}$
$\mathrm{r}_{\mathrm{pbi}}=\frac{17.8-17.83}{4.79} \sqrt{\frac{0.8}{0.2}}$
$\mathrm{r}_{\mathrm{pbi}}=\frac{1.07}{4.79} \sqrt{4}$
$\mathrm{r}_{\mathrm{pbi}}=0.223 \times 2=0.446$

## Item 14

$\mathrm{r}_{\mathrm{pbi}}=\frac{\mathrm{M}_{\mathrm{p}-\mathrm{M}_{\mathrm{t}}}}{\mathrm{SD}_{\mathrm{t}}} \sqrt{\frac{\mathrm{p}}{\mathrm{q}}}$
$\mathrm{r}_{\mathrm{pbi}}=\frac{17.77-16.73}{4.79} \sqrt{\frac{0.7}{0.3}}$
$\mathrm{r}_{\mathrm{pbi}}=\frac{1.04}{4.79} \sqrt{2.33}$
$\mathrm{r}_{\mathrm{pbi}}=0.217 \times 1.52=0.329$
Item 15
$r_{p b i}=\frac{M_{p-M_{t}}}{S D_{t}} \sqrt{\frac{p}{q}}$

$$
\begin{aligned}
& \mathrm{r}_{\mathrm{pbi}}=\frac{18.77-16.73}{4.79} \sqrt{\frac{0.6}{0.4}} \\
& \mathrm{r}_{\mathrm{pbi}}=\frac{2,04}{4.79} \sqrt{1.5} \\
& \mathrm{r}_{\mathrm{pbi}}=0.425 \times 1.22=0.518
\end{aligned}
$$

## Item 16

$r_{p b i}=\frac{M_{p-M_{t}}}{S D_{t}} \sqrt{\frac{p}{q}}$
$\mathrm{r}_{\mathrm{pbi}}=\frac{18.95-16.73}{4.79} \sqrt{\frac{0.7}{0.3}}$
$\mathrm{r}_{\mathrm{pbi}}=\frac{2.22}{4.79} \sqrt{2.33}$
$\mathrm{r}_{\mathrm{pbi}}=0.463 \times 1.52=0.703$

## Item 17

$$
\mathrm{r}_{\mathrm{pbi}}=\frac{\mathrm{m}_{\mathrm{p}-\mathrm{m}_{\mathrm{t}}}}{\mathrm{SD}_{\mathrm{t}}} \sqrt{\frac{\mathrm{p}}{\mathrm{q}}}
$$

$$
\mathrm{r}_{\mathrm{pbi}}=\frac{17.90-16.73}{4.79} \sqrt{\frac{0.7}{0.3}}
$$

$$
\mathrm{r}_{\mathrm{pbi}}=\frac{1.17}{4.79} \sqrt{2.33}
$$

$$
\mathrm{r}_{\mathrm{pbi}}=0.244 \times 1.52=0.370
$$

## Item 18

$\mathrm{r}_{\mathrm{pbi}}=\frac{\mathrm{M}_{\mathrm{p}-\mathrm{M}_{\mathrm{t}}}}{\mathrm{SD}} \sqrt{\mathrm{t}} \sqrt{\frac{\mathrm{p}}{\mathrm{q}}}$
$\mathrm{r}_{\mathrm{pbi}}=\frac{19.72-16.73}{4.79} \sqrt{\frac{0.7}{0.3}}$
$\mathrm{r}_{\mathrm{pbi}}=\frac{2.99}{4.79} \sqrt{2.33}$
$\mathrm{r}_{\mathrm{pbi}}=0.624 \times 1.52=0.948$

## Item 19

$\mathrm{r}_{\mathrm{pbi}}=\frac{\mathrm{M}_{\mathrm{p}-\mathrm{M}_{\mathrm{t}}}}{\mathrm{SD}_{\mathrm{t}}} \sqrt{\frac{\mathrm{p}}{\mathrm{q}}}$
$\mathrm{r}_{\mathrm{pbi}}=\frac{18.22-16.73}{4.79} \sqrt{\frac{0.6}{0.4}}$
$\mathrm{r}_{\mathrm{pbi}}=\frac{1.49}{4.79} \sqrt{1.5}$
$\mathrm{r}_{\mathrm{pbi}}=0.311 \times 1.22=0.379$
Item 20
$\mathrm{r}_{\mathrm{pbi}}=\frac{\mathrm{M}_{\mathrm{p}-\mathrm{M}_{\mathrm{t}}}}{\mathrm{SD}} \sqrt{\frac{\mathrm{p}}{\mathrm{q}}}$
$\mathrm{r}_{\mathrm{pbi}}=\frac{18.21-16.73}{4.79} \sqrt{\frac{0.8}{0.2}}$
$\mathrm{r}_{\mathrm{pbi}}=\frac{1.48}{4.79} \sqrt{4}$
$r_{p b i}=0.308 \times 2=0.616$

$$
\begin{aligned}
& \text { Item } 21 \\
& \mathrm{r}_{\mathrm{pbi}}=\frac{\mathrm{M}_{\mathrm{p}-\mathrm{M}_{\mathrm{t}}}}{\mathrm{SD}_{\mathrm{t}}} \sqrt{\frac{\mathrm{p}}{\mathrm{q}}} \\
& \mathrm{r}_{\mathrm{pbi}}=\frac{15.5-16.73}{3.37} \sqrt{\frac{0.4}{0.6}} \\
& \mathrm{r}_{\mathrm{pbi}}=\frac{-1.23}{4.79} \sqrt{0.66} \\
& \mathrm{r}_{\mathrm{pbi}}=-0.256 \times 0.81=0.207
\end{aligned}
$$

## Item 22

$\mathrm{r}_{\mathrm{pbi}}=\frac{\mathrm{M}_{\mathrm{p}-\mathrm{M}_{\mathrm{t}}}}{\mathrm{SD}} \sqrt{\frac{\mathrm{p}}{\mathrm{q}}}$
$\mathrm{r}_{\mathrm{pbi}}=\frac{17.5-16.73}{4.79} \sqrt{\frac{0.3}{0.8}}$
$\mathrm{r}_{\mathrm{pbi}}=\frac{0.77}{4.79} \sqrt{0.37}$
$\mathrm{r}_{\mathrm{pbi}}=0.160 \times 0.60=0.096$

## Item 23

$\mathrm{r}_{\mathrm{pbi}}=\frac{\mathrm{M}_{\mathrm{p}-\mathrm{m}_{\mathrm{t}}}}{S D_{\mathrm{t}}} \sqrt{\frac{\mathrm{p}}{\mathrm{q}}}$
$\mathrm{r}_{\mathrm{pbi}}=\frac{18.33-16.73}{4.79} \sqrt{\frac{0.6}{0.4}}$
$\mathrm{r}_{\mathrm{pbi}}=\frac{1.6}{4.79} \sqrt{1.5}$
$\mathrm{r}_{\mathrm{pbi}}=0.334 \times 1.22=0.407$
Item 24
$r_{p b i}=\frac{M_{p-M_{t}}}{S D_{t}} \sqrt{\frac{p}{q}}$
$\mathrm{r}_{\mathrm{pbi}}=\frac{19.09-16.73}{4.79} \sqrt{\frac{0.7}{0.3}}$
$\mathrm{r}_{\mathrm{pbi}}=\frac{2.36}{4.79} \sqrt{2.33}$
$\mathrm{r}_{\mathrm{pbi}}=0.492 \times 1.52=0.747$
Item 25

$$
\begin{aligned}
& \mathrm{r}_{\mathrm{pbi}}=\frac{\mathrm{M}_{\mathrm{p}-\mathrm{M}_{\mathrm{t}}}}{S D_{\mathrm{t}}} \sqrt{\frac{\mathrm{p}}{\mathrm{q}}} \\
& \mathrm{r}_{\mathrm{pbi}}=\frac{18.63-16.73}{4.79} \sqrt{\frac{0.7}{0.3}} \\
& \mathrm{r}_{\mathrm{pbi}}=\frac{1.9}{4.79} \sqrt{2.33} \\
& \mathrm{r}_{\mathrm{pbi}}=0.396 \times 1.52=0.601
\end{aligned}
$$

Table Validity Pre-test

| NO | $\mathbf{M p}$ | $\mathbf{M t}$ | $\mathbf{S D t}$ | $\mathbf{P}$ | $\mathbf{Q}$ | $\mathbf{r}_{\mathbf{p b i}}=\frac{\text { Mp-Mt }}{\text { SDt }} \sqrt{\frac{\boldsymbol{p}}{\boldsymbol{q}}}$ | Rt on 5\% <br> Significant | Interpretation |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1 | 17.13 | 16.73 | 4.79 | 0.8 | 0.2 | 0.166 | 0.361 | Invalid |
| 2 | 17.73 | 16.73 | 4.79 | 0.8 | 0.2 | 0.416 | 0.361 | Valid |
| 3 | 17.91 | 16.73 | 4.79 | 0.8 | 0.2 | 0.492 | 0.361 | Valid |
| 4 | 16.19 | 16.73 | 4.79 | 0.7 | 0.3 | -0.171 | 0.361 | Invalid |
| 5 | 18.2 | 16.73 | 4.79 | 0.7 | 0.4 | 0.403 | 0.361 | Valid |
| 6 | 19.30 | 16.73 | 4.79 | 0.5 | 0.6 | 0.487 | 0.361 | Valid |
| 7 | 17.76 | 16.73 | 4.79 | 0.9 | 0.2 | 0.451 | 0.361 | Valid |
| 8 | 18.00 | 16.73 | 4.79 | 0.7 | 0.3 | 0.401 | 0.361 | Valid |
| 9 | 18.00 | 16.73 | 4.79 | 0.8 | 0.2 | 0.530 | 0.361 | Valid |
| 10 | 18.75 | 16.73 | 4.79 | 0.7 | 0.4 | 0.547 | 0.361 | Valid |
| 11 | 19.07 | 16.73 | 4.79 | 0.4 | 0.6 | 0.395 | 0.361 | Valid |
| 12 | 18.00 | 16.73 | 4.79 | 0.7 | 0.3 | 0.402 | 0.361 | Valid |
| 13 | 17.8 | 16.73 | 4.79 | 0.8 | 0.2 | 0.446 | 0.361 | Valid |
| 14 | 17.77 | 16.73 | 4.79 | 0.7 | 0.3 | 0.329 | 0.361 | Invalid |
| 15 | 18.77 | 16.73 | 4.79 | 0.7 | 0.3 | 0.518 | 0.361 | Valid |
| 16 | 18.95 | 16.73 | 4.79 | 0.7 | 0.3 | 0.703 | 0.361 | Valid |
| 17 | 17.68 | 16.73 | 4.79 | 0.7 | 0.3 | 0.370 | 0.361 | Valid |
| 18 | 19.72 | 16.73 | 4.79 | 0.7 | 0.3 | 0.948 | 0.361 | Valid |
| 19 | 18.22 | 16.73 | 4.79 | 0.6 | 0.4 | 0.379 | 0.361 | Valid |
| 20 | 18.21 | 16.73 | 4.79 | 0.8 | 0.2 | 0.616 | 0.361 | Valid |
| 21 | 15.5 | 16.73 | 4.79 | 0.4 | 0.6 | 0.207 | 0.361 | Invalid |
| 22 | 17.5 | 16.73 | 4.79 | 0.3 | 0.8 | 0.096 | 0.361 | Invalid |


| 23 | 18.33 | 16.73 | 4.79 | 0.6 | 0.4 | 0.407 | 0.361 | Valid |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| 24 | 19.09 | 16.73 | 4.79 | 0.7 | 0.3 | 0.747 | 0.361 | Valid |
| 25 | 18.63 | 16.73 | 4.79 | 0.7 | 0.3 | 0.601 | 0.361 | Valid |

APPENDIX 12
Table Validity Post-test

| NO | Mp | Mt | SDt | $\mathbf{P}$ | $\mathbf{Q}$ | $\mathbf{r}_{\text {pbi }}=\frac{\text { Mp-Mt }}{\text { SDt }} \sqrt{\frac{p}{q}}$ | Rt on 5\% <br> Significant | Interpretation |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1 | 18.58 | 17.83 | 3.37 | 0.8 | 0.1 | 0.626 | 0.361 | Valid |
| 2 | 19.29 | 17.83 | 3.37 | 0.8 | 0.2 | 0.866 | 0.361 | Valid |
| 3 | 17.67 | 17.83 | 3.37 | 0.7 | 0.2 | 0.076 | 0.361 | Invalid |
| 4 | 19.40 | 17.83 | 3.37 | 0.7 | 0.2 | 0.869 | 0.361 | Valid |
| 5 | 19.09 | 17.83 | 3.37 | 0.7 | 0.3 | 0.566 | 0.361 | Valid |
| 6 | 19.85 | 17.83 | 3.37 | 0.7 | 0.3 | 0.910 | 0.361 | Valid |
| 7 | 19.15 | 17.83 | 3.37 | 0.7 | 0.3 | 0.594 | 0.361 | Valid |
| 8 | 18.52 | 17.83 | 3.37 | 0.7 | 0.3 | 0.310 | 0.361 | Invalid |
| 9 | 19.45 | 17.83 | 3.37 | 0.6 | 0.3 | 0.676 | 0.361 | Valid |
| 10 | 18.73 | 17.83 | 3.37 | 0.7 | 0.2 | 0.405 | 0.361 | Valid |
| 11 | 18.86 | 17.83 | 3.37 | 0.7 | 0.2 | 0.570 | 0.361 | Valid |
| 12 | 19.00 | 17.83 | 3.37 | 0.6 | 0.3 | 0.489 | 0.361 | Valid |
| 13 | 18.1 | 17.83 | 3.37 | 0.6 | 0.3 | 0.283 | 0.361 | Invalid |
| 14 | 19.2 | 17.83 | 3.37 | 0.6 | 0.3 | 0.542 | 0.361 | Valid |
| 15 | 18.50 | 17.83 | 3.37 | 0.7 | 0.3 | 0.370 | 0.361 | Valid |
| 16 | 19.33 | 17.83 | 3.37 | 0.6 | 0.4 | 0.542 | 0.361 | Valid |
| 17 | 18.34 | 17.83 | 3.37 | 0.7 | 0.2 | 0.285 | 0.361 | Invalid |
| 18 | 18.80 | 17.83 | 3.37 | 0.6 | 0.3 | 0.404 | 0.361 | Valid |
| 19 | 18.80 | 17.83 | 3.37 | 0.7 | 0.3 | 0.430 | 0.361 | Valid |


| 20 | 19.45 | 18.83 | 3.37 | 0.6 | 0.3 | 0.676 | 0.361 | Valid |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 21 | 18.80 | 17.83 | 3.37 | 0.7 | 0.3 | 0.430 | 0.361 | Valid |
| 22 | 19.40 | 17.83 | 3.37 | 0.6 | 0.3 | 0.655 | 0.361 | Valid |
| 23 | 19.47 | 17.83 | 3.37 | 0.6 | 0.3 | 0.370 | 0.361 | Valid |
| 24 | 18.86 | 17.83 | 3.37 | 0.7 | 0.2 | 0.570 | 0.361 | Valid |
| 25 | 18.08 | 17.83 | 3.37 | 0.7 | 0.2 | 0.138 | 0.361 | Invalid |

## APPENDIX 13

## Reliability of Pre-test

To get reliability of the test, the researcher uses formula KR-20

$$
\mathrm{R}_{11}=\left(\frac{n}{n-1}\right)\left(\frac{s_{t^{2}}-\sum p q}{s_{t^{2}}}\right)
$$

$\mathrm{N}=30$
$\sum \mathrm{Xt}=502$
$\sum \mathrm{Xt}^{2}=9.088$
$\Sigma \mathrm{pq}=5.54$
$\mathrm{S}_{\mathrm{t}}{ }^{2}=\sum \mathrm{Xt}^{2}-\left(\frac{\sum \mathrm{xt}}{N}\right)^{2}$
$=9.088-\left(\frac{502}{30}\right)^{2}=9.088-16.73^{2}=9.088-273.87=8814.13$
$\mathrm{S}_{\mathrm{t}}^{2}=\frac{\sum \mathrm{Xt} 2}{N}=\frac{8814.13}{30}$
$\mathrm{S}_{\mathrm{t}}{ }^{2}=293.804$
$\mathrm{R}_{11}=\left(\frac{n}{n-1}\right)\left(\frac{s_{t^{2}}-\sum p q}{s_{t^{2}}}\right)$
$\mathrm{R}_{11}=\left(\frac{30}{30-1}\right)\left(\frac{293.804-5.54}{293.804}\right)=\left(\frac{30}{29}\right)\left(\frac{293.798}{293.804}\right)$
$=1.01\left(r_{11}>0.70=\right.$ reliabele $)$

Test is reliable if $\mathrm{r}_{\text {count }}>\mathrm{r}_{\text {tabel }}$. Based on calculation above, the test have high reliability.

## Reliability of Post-test

To get reliability of the test, the researcher uses formula KR-20

$$
\mathrm{R}_{11}=\left(\frac{n}{n-1}\right)\left(\frac{s_{t^{2}}-\sum p q}{s_{t^{2}}}\right)
$$

$\mathrm{N}=30$
$\sum \mathrm{Xt}=535$
$\sum \mathrm{Xt}^{2}=9879$
$\sum \mathrm{pq}=4.37$
$\mathrm{S}_{\mathrm{t}}{ }^{2}=\sum \mathrm{Xt}^{2}-\left(\frac{\sum \mathrm{xt}}{N}\right)^{2}$
$=9879-\left(\frac{535}{25}\right)^{2}=9879-17.83^{2}=9879-317.90=9561.1$
$\mathrm{S}_{\mathrm{t}}^{2}=\frac{\sum \mathrm{xt} 2}{N}=\frac{9561.1}{30}$
$\mathrm{S}_{\mathrm{t}}{ }^{2}=318.703$
$\mathrm{R}_{11}=\left(\frac{n}{n-1}\right)\left(\frac{s_{t^{2}}-\sum p q}{s_{t^{2}}}\right)$
$\mathrm{R}_{11}=\left(\frac{30}{30-1}\right)\left(\frac{318.703-4.37}{318.703}\right)=\left(\frac{30}{29}\right)\left(\frac{314.333}{318.703}\right)$
$=1.01\left(\mathrm{r}_{11}>0.70=\right.$ reliabele $)$

Test is reliable if $r_{\text {count }}>r_{\text {tabel }}$. Based on calculation above, the test have high reliability.

## Appendix 15

## Score of Experimental Class and Control Class on Pre-Test

1. Score of Experimental Class Pre-Test before using Direct Method

| No | The Initial Name of Students (n) | Pre-Test |
| :---: | :--- | :---: |
| 1. | AA | 60 |
| 2. | AANH | 30 |
| 3. | AHS | 60 |
| 4. | AH | 40 |
| 5. | AYP | 35 |
| 6. | AER | 70 |
| 7. | AG | 70 |
| 8. | AHR | 45 |
| 9. | APL | 50 |
| 10. | ARPJ | 55 |
| 11. | ASH | 75 |
| 12. | AZB | 55 |
| 13. | CR | 65 |
| 14. | DSDH | 65 |
| 15. | EFH | 75 |
| 16. | FAS | 65 |
| 17. | FR | 60 |
| 18. | FRL | 45 |


| 19. | FRN | 50 |
| :---: | :--- | :---: |
| 20. | IGB | 60 |
| 21. | IH | 40 |
| 22. | IHH | 75 |
| 23. | JL | 35 |
| 24. | KA | 60 |
| 25. | LMN | 55 |
| 26. | M | 55 |
| 27. | MA | 50 |
| 28. | MH | 80 |
| 29. | MS | 65 |
| 30. | NLN | 50 |
| 31. | NH | 60 |
| TOTAL |  | 1775 |

## 2. Score of Control Class Pre-Test

| No | The Initial Name of Students (n) | Pre-Test |
| :---: | :--- | :---: |
| 1. | AHB | 35 |
| 2. | AAS | 75 |
| 3. | AS | 40 |
| 4. | AIL | 55 |
| 5. | ARD | 30 |
| 6. | DKP | 55 |
| 7. | DS | 55 |


| 8. | F | 70 |
| :---: | :--- | :---: |
| 9. | FM | 45 |
| 10. | FDY | 55 |
| 11. | FM | 65 |
| 12. | FS | 45 |
| 13. | HBP | 50 |
| 14. | HF | 40 |
| 15. | ITC | 40 |
| 16. | LID | 50 |
| 17. | LS | 30 |
| 18. | MA | 45 |
| 19. | MS | 55 |
| 20. | NHS | 50 |
| 21. | NIMD | 55 |
| 22. | NK | 45 |
| 23. | NM | 55 |
| 24. | RASD | 55 |
| 25. | RP | 55 |
| 26. | RS | 40 |
| 27. | S | 70 |
| 28. | SD | 75 |
| 29. | SHD | 60 |
| 30. | SPH | 65 |
| 31. | SH | 70 |
| 32. | TWL | 55 |
| 33. | WAN | 55 |
|  |  | 1740 |

## Appendix 16

## Score of Experimental Class and Control Class on Post-Test

3. Score of Experimental Class Post-Test after using Retelling Strategy

| No | The Initial Name of Students (n) | Post-Test |
| :---: | :--- | :---: |
| 32. | AA | 85 |
| 33. | AANH | 90 |
| 34. | AHS | 75 |
| 35. | AH | 65 |
| 36. | AYP | 75 |
| 37. | AER | 80 |
| 38. | AG | 95 |
| 39. | AHR | 85 |
| 40. | APL | 80 |
| 41. | ARPJ | 85 |
| 42. | ASH | 85 |
| 43. | AZB | 80 |
| 44. | CR | 80 |
| 45. | DSDH | 85 |
| 46. | EFH | 90 |
| 47. | FAS | 80 |
| 48. | FRN | 80 |
| 49. | FRL | 95 |


| 50. | FR | 85 |
| :---: | :--- | :---: |
| 51. | IGB | 70 |
| 52. | IH | 85 |
| 53. | IHH | 85 |
| 54. | JL | 90 |
| 55. | KA | 85 |
| 56. | LMN | 70 |
| 57. | M | 85 |
| 58. | MA | 80 |
| 59. | MH | 100 |
| 60. | MS | 85 |
| 61. | NLN | 90 |
| 62. | NH | 85 |
| TOTAL |  | 2575 |

## 4. Score of Control Class Post-Test

| No | The Initial Name of Students (n) | Post-Test |
| :---: | :--- | :---: |
| 32. | AHB | 65 |
| 33. | AAS | 75 |
| 34. | AS | 60 |
| 35. | AIL | 75 |
| 36. | ARD | 90 |
| 37. | DKP | 95 |
| 38. | DS | 75 |


| 39. | F | 75 |
| :---: | :--- | :---: |
| 40. | FM | 60 |
| 41. | FDY | 75 |
| 42. | FM | 65 |
| 43. | FS | 65 |
| 44. | HBP | 75 |
| 45. | HF | 65 |
| 46. | ITC | 65 |
| 47. | LID | 80 |
| 48. | LS | 80 |
| 49. | MA | 75 |
| 50. | MS | 60 |
| 51. | NHS | 75 |
| 52. | NIMD | 75 |
| 53. | NK | 75 |
| 54. | NM | 75 |
| 55. | RASD | 85 |
| 56. | RP | 80 |
| 57. | RS | 85 |
| 58. | S | 95 |
| 59. | SD | 80 |
| 60. | SHD | 60 |
| 61. | SPH | 75 |
| 62. | SH | 60 |
| 32. | TWL | 75 |
| 33. | WAN | 50 |
|  |  | 2425 |

## Appendix 17

## HOMOGENEITY TEST (PRE-TEST)

Calculation of parameter to get variant of the first class as experimental class sample by using direct method and variant of the second class as control class sample by using conventional method are used homogeneity test by using formula:
$S^{2}=\frac{n \Sigma x i^{2}-(\Sigma x i)}{n(n-1)}$

Hypotheses:
$\mathrm{H}_{0} \quad: \delta_{1}^{2}=\delta_{2}^{2}$
$\mathrm{H}_{1} \quad: \delta_{1}^{2} \neq \delta_{2}^{2}$
A. Variant of the VIII-2 class is:

| $\mathbf{N O}$ | $\mathbf{X i}$ | $\mathbf{X i}^{\mathbf{2}}$ |
| :---: | :---: | :---: |
| 1. | 30 | 900 |
| 2. | 35 | 1225 |
| 3. | 35 | 1225 |
| 4. | 40 | 1600 |
| 5. | 40 | 1600 |
| 6. | 45 | 2025 |
| 7. | 45 | 2025 |
| 8. | 50 | 2500 |


| 9. | 50 | 2500 |
| :--- | :---: | :---: |
| 10. | 50 | 2500 |
| 11. | 50 | 2500 |
| 12. | 55 | 3025 |
| 13. | 55 | 3025 |
| 14. | 55 | 3025 |
| 15. | 55 | 3025 |
| 16. | 60 | 3600 |
| 17. | 60 | 3600 |
| 18. | 60 | 3600 |
| 19. | 60 | 3600 |
| 20. | 60 | 3600 |
| 21. | 60 | 3600 |
| 22. | 65 | 4225 |
| 23. | 65 | 4225 |
| 24. | 65 | 4225 |
| 25. | 65 | 4225 |
| 26. | 70 | 4900 |
| 27. | 70 | 4900 |
| 28. | 75 | 5625 |
| 29. | 75 | 5625 |
| 30. | 75 | 5625 |
| 31. | 80 | 6400 |
|  | 1755 | 104275 |

n $=31$
$\sum x i=1755$

$$
\begin{aligned}
& \sum_{x i} 2=104275 \\
& \text { So: } \\
& \qquad \begin{aligned}
S^{2} & =\frac{n \sum x i^{2}-\left(\sum x i\right)}{n(n-1)} \\
& =\frac{31(104275)-(1755)^{2}}{31(31-1)} \\
& =\frac{3232525-3080025}{31(30)} \\
& =\frac{152.500}{930} \\
& =163.97
\end{aligned}
\end{aligned}
$$

B. Variant of the VIII-3 class is:

| $\mathbf{N O}$ | $\mathbf{X i}$ | $\mathbf{X i}^{\mathbf{2}}$ |
| :---: | :---: | :---: |
| 1. | 30 | 900 |
| 2. | 30 | 900 |
| 3. | 35 | 1225 |
| 4. | 40 | 1600 |
| 5. | 40 | 1600 |
| 6. | 40 | 1600 |
| 7. | 40 | 1600 |
| 8. | 45 | 2025 |
| 9. | 45 | 2025 |
| 10. | 45 | 2025 |
| 11. | 45 | 2025 |
| 12. | 50 | 2500 |


| 13. | 50 | 2500 |
| :---: | :---: | :---: |
| 14. | 50 | 2500 |
| 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. | 60 | 3600 |
| 27. | 65 | 4225 |
| 28. | 65 | 4225 |
| 29. | 70 | 4900 |
| 30. | 70 | 4900 |
| 31. | 70 | 4900 |
| 32. | 75 | 5625 |
| 33. | 75 | 5625 |
|  | 1740 | 96300 |

n
$\sum x i=1740$
$\sum_{x i} 2=96300$

So:

$$
\begin{aligned}
\mathrm{S}^{2} & =\frac{n \Sigma x i^{2}-(\Sigma x i)}{n(n-1)} \\
& =\frac{33(96300)-(1740)^{2}}{33(33-1)} \\
& =\frac{3177900-3027600}{33(32)} \\
& =\frac{150.300}{1056} \\
& =142.33
\end{aligned}
$$

C. Variant of the VIII-4 class is:

| $\mathbf{N O}$ | $\mathbf{X i}$ | $\mathbf{X i}^{\mathbf{2}}$ |
| :---: | :---: | :---: |
| 1. | 30 | 900 |
| 2. | 35 | 1225 |
| 3. | 35 | 1225 |
| 4. | 35 | 1225 |
| 5. | 40 | 1600 |
| 6. | 40 | 1600 |
| 7. | 40 | 1600 |
| 8. | 40 | 1600 |
| 9. | 40 | 1600 |
| 10. | 45 | 2025 |
| 11. | 50 | 2500 |
| 12. | 50 | 2500 |
| 13. | 55 | 3025 |
| 14. | 55 | 3025 |
| 15. | 55 | 3025 |


| 16. | 55 | 3025 |
| :---: | :---: | :---: |
| 17. | 60 | 3600 |
| 18. | 60 | 3600 |
| 19. | 60 | 3600 |
| 20. | 60 | 3600 |
| 21. | 60 | 3600 |
| 22. | 65 | 4225 |
| 23. | 65 | 4225 |
| 24. | 65 | 4225 |
| 25. | 65 | 4225 |
| 26. | 70 | 4900 |
| 27. | 70 | 4900 |
| 28. | 70 | 4900 |
| 29. | 75 | 5625 |
| 30. | 75 | 5625 |
| 31. | 75 | 5625 |
| 32. | 75 | 5625 |
|  | 1770 | 103800 |
| $=32$ |  |  |

n
$\sum x i=1770$
$\sum_{x i} 2=103800$
So:

$$
\mathrm{S}^{2} \quad=\frac{n \Sigma x i^{2}-(\Sigma x i)}{n(n-1)}
$$

$$
\begin{aligned}
& =\frac{32(103800)-(1710)^{2}}{32(32-1)} \\
& =\frac{3321600-3132900}{32(31)} \\
& =\frac{188.700}{992} \\
& =190.22
\end{aligned}
$$

The Formula was used to test hypothesis was:

1. VIII-2 and VIII-3 :
$\mathrm{F}=\frac{\text { TheBiggestVariant }}{\text { TheSmallestVariant }}$
So:
$\mathrm{F}=\frac{163.97}{142.33}$
$=1.15$
After doing the calculation, researcher found that $\mathrm{F}_{\text {count }}=1.15$ with $\alpha 5 \%$ and $\mathrm{dk}=31$ from 33 the distribution list F , researcher found that $\mathrm{F}_{\text {table }}=1.84$ and 1.82 cause $\mathrm{F}_{\text {count }}<\mathrm{F}_{\text {table }}(1.15<1.84$ and 1.82 ). So, there is no difference the variant between the VIII-2 class and VIII- 3 class. It means that the variant is homogenous.
2. VIII-2 and VIII-4 :

$$
\begin{aligned}
& \mathrm{F}=\frac{\text { The BiggestVariant }}{\text { ThesmaltestVariant } \mathrm{So}:} \\
& \begin{aligned}
\mathrm{F} & =\frac{190.22}{163.97} \\
& =1.16
\end{aligned}
\end{aligned}
$$

After doing the calculation, researcher found that $\mathrm{F}_{\text {count }}=1.16$ with $\alpha 5 \%$ and $\mathrm{dk}=31$ from the distribution list F , researcher found that $\mathrm{F}_{\text {table }}=1.84$, cause $\mathrm{F}_{\text {count }}<\mathrm{F}_{\text {table }}(1.16<1.84)$. So, there is no difference the variant between the VIII-2 class and VIII-4 class. It means that the variant is homogenous.
3. VIII-3 and VIII-4 :
$\mathrm{F}=\frac{\text { TheBiggestVariant }}{\text { TheSmallestVariant }}$

So:
$\mathrm{F}=\frac{190.22}{142.33}$
$=1.33$
After doing the calculation, researcher found that $\mathrm{F}_{\text {count }}=1.33$ with $\alpha 5 \%$ and $\mathrm{dk}=31$ from the distribution list F , researcher found that $\mathrm{F}_{\text {table }}=1.84$, cause
$\mathrm{F}_{\text {count }}<\mathrm{F}_{\text {table }}(1.33<1.84)$. So, there is no difference the variant between the VIII-3 class and VIII-4 class. It means that the variant is homogenous.

## Appendix 18

## HOMOGENEITY TEST (POST-TEST)

Calculation of parameter to get variant of the first class as experimental class sample by using direct method and variant of the second class as control class
sample by using conventional method are used homogeneity test by using formula:
$S^{2}=\frac{n \Sigma x i^{2}-(\Sigma x i)}{n(n-1)}$
Hypotheses:
$\mathrm{H}_{0} \quad: \delta_{1}^{2}=\delta_{2}^{2}$
$\mathrm{H}_{1} \quad: \delta_{1}^{2} \neq \delta_{2}^{2}$
A. Variant of the VIII-2 class is

| $\mathbf{N O}$ | $\mathbf{X i}$ | $\mathbf{X i}^{\mathbf{2}}$ |
| :---: | :---: | :---: |
| 32. | 65 | 4225 |
| 33. | 70 | 4900 |
| 34. | 70 | 4900 |
| 35. | 75 | 5625 |
| 36. | 75 | 5625 |
| 37. | 75 | 5625 |
| 38. | 80 | 6400 |
| 39. | 80 | 6400 |
| 40. | 80 | 6400 |


| 41. | 80 | 6400 |
| :---: | :---: | :---: |
| 42. | 80 | 6400 |
| 43. | 80 | 6400 |
| 44. | 80 | 6400 |
| 45. | 85 | 7225 |
| 46. | 85 | 7225 |
| 47. | 85 | 7225 |
| 48. | 85 | 7225 |
| 49. | 85 | 7225 |
| 50. | 85 | 7225 |
| 51. | 85 | 7225 |
| 52. | 85 | 7225 |
| 53. | 85 | 7225 |
| 54. | 85 | 7225 |
| 55. | 85 | 7225 |
| 56. | 90 | 8100 |
| 57. | 90 | 8100 |
| 58. | 90 | 8100 |
| 59. | 90 | 8100 |
| 60. | 95 | 9025 |
| 61. | 95 | 9025 |
| 62. | 100 | 10000 |
|  | 2575 | 215625 |

$\mathrm{n}=31$
$\sum x i=2575$

$$
\begin{aligned}
& \sum_{x i} 2=215625 \\
& \text { So: } \\
& \quad \begin{aligned}
\mathrm{S}^{2} \quad & \\
& =\frac{n \Sigma x i^{2}-(\Sigma x i)}{n(n-1)} \\
& =\frac{31(215625)-(2575)^{2}}{31(31-1)} \\
& =\frac{6684375-6630625}{31(30)} \\
& =\frac{53750}{930} \\
& =57.79
\end{aligned}
\end{aligned}
$$

B. Variant of the VIII-3 class is:

| $\mathbf{N O}$ | $\mathbf{X i}$ | $\mathbf{X i}^{\mathbf{2}}$ |
| :---: | :---: | :---: |
| 34. | 65 | 4225 |
| 35. | 65 | 4225 |
| 36. | 65 | 4225 |
| 37. | 65 | 4225 |
| 38. | 70 | 4900 |
| 39. | 70 | 4900 |
| 40. | 70 | 4900 |
| 41. | 70 | 4900 |
| 42. | 75 | 5625 |
| 43. | 75 | 5625 |
| 44. | 75 | 5626 |
| 45. | 75 | 5625 |


| 46. | 75 | 5625 |
| :---: | :---: | :---: |
| 47. | 75 | 5625 |
| 48. | 75 | 5625 |
| 49. | 75 | 5625 |
| 50. | 80 | 6400 |
| 51. | 80 | 6400 |
| 52. | 80 | 6400 |
| 53. | 80 | 6400 |
| 54. | 80 | 6400 |
| 55. | 80 | 6400 |
| 56. | 80 | 6400 |
| 57. | 80 | 6400 |
| 58. | 80 | 6400 |
| 59. | 80 | 6400 |
| 60. | 85 | 7225 |
| 61. | 85 | 7225 |
| 62. | 85 | 7225 |
| 63. | 85 | 7225 |
| 64. | 90 | 8100 |
| 65. | 95 | 9025 |
| 66. | 95 | 9025 |
|  | 2425 | 180950 |

n
$=33$
$\sum x i=2425$
$\sum_{x i} 2=180950$
So:

$$
\begin{aligned}
S^{2} & =\frac{n \Sigma x i^{2}-(\Sigma x i)}{n(n-1)} \\
& =\frac{33(180950)-(2425)^{2}}{33(33-1)} \\
& =\frac{5971350-580625}{33(32)} \\
& =\frac{90725}{1056} \\
& =85.91
\end{aligned}
$$

The Formula was used to test hypothesis was:
4. VIII-2 and VIII-3 :
$\mathrm{F}=\frac{\text { The BiggestVariant }}{\text { TheSmallestVariant }}$
So:
$F=\frac{85.91}{57.79}$
$=1.48$

After doing the calculation, researcher found that $\mathrm{F}_{\text {count }}=1.48$ with $\alpha 5 \%$ and $\mathrm{dk}=31$ from 33 the distribution list F , researcher found that $\mathrm{F}_{\text {table }}=1.84$, cause $\mathrm{F}_{\text {count }}<\mathrm{F}_{\text {table }}(1.48<1.84)$. So, there is no difference the variant between the VIII-2 class and VIII-3 class. It means that the variant is homogenous.

Appendix 19

## RESULT OF NORMALITY TEST IN PRE TEST

## RESULT OF THE NORMALITY TEST OF VIII-2 IN PRE-TEST

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

| 30 | 35 | 35 | 40 | 40 | 45 | 45 | 50 | 50 | 50 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| 50 | 55 | 55 | 55 | 55 | 60 | 60 | 60 | 60 | 60 |
| 60 | 65 | 65 | 65 | 65 | 70 | 70 | 75 | 75 | 75 |
| 80 |  |  |  |  |  |  |  |  |  |

2. High $=80$

Low $=30$
Range $=$ High - Low

$$
=80-30
$$

$$
=50
$$

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

$$
\begin{aligned}
& =1+3,3 \log (31) \\
& =1+3,3(1.49) \\
& =1+4.92 \\
& =5.92
\end{aligned}
$$

$$
=6
$$

4. Length of Classes $=\frac{\text { range }}{\text { totalofclass }}=\frac{50}{6}=8.33=8$
5. Mean

| Interval Class | F | X | x | fx | $\mathrm{x}^{2}$ | $\mathrm{fx}^{2}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $30-37$ | 3 | 33 | +3 | 9 | 9 | 27 |
| $38-45$ | 4 | 41 | +2 | 8 | 4 | 16 |
| $46-53$ | 4 | 49 | +1 | 4 | 1 | 4 |
| $54-61$ | 10 | $\mathbf{5 7}$ | 0 | 0 | 0 | 0 |
| $62-69$ | 4 | 65 | -1 | -3 | 1 | 4 |
| $70-77$ | 5 | 73 | -2 | -10 | 4 | 20 |
| $78-85$ | 1 | 81 | -3 | -3 | 9 | 9 |
| $\boldsymbol{i} 8$ | 31 | - | - | 5 | - | 80 |

$M x=M^{1}+i \frac{\Sigma f x^{1}}{N}$
$=57+8\left(\frac{5}{31}\right)$
$=57+8(0.17)$
$=57+1.36$
$=58.36$
$\mathrm{SD}_{\mathrm{t}}=i \sqrt{\frac{\sum f x^{2}}{n}-\left(\frac{\sum f x \prime}{n}\right)^{2}}$

$$
\begin{aligned}
& =8 \sqrt{\frac{80}{31}-\left(\frac{5}{31}\right)^{2}} \\
& =8 \sqrt{2.58-(0.17)^{2}} \\
& =8 \sqrt{2.58-0.02} \\
& =8 \sqrt{2.56} \\
& =8 \times 1.6 \\
& =12.8
\end{aligned}
$$

Table of Normality Data Test with Chi Kuadrad Formula

| Interval <br> of Score | Real Upper <br> Limit | Z- <br> Score | Limit of <br> Large of the <br> Area | Large of <br> area | $f_{h}$ | $f_{0}$ | $\left.\underline{f_{0}}-\mathrm{f}_{\mathrm{h}}\right)$ <br> $\mathrm{f}_{\mathrm{h}}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |


| $78-85$ | 85.5 | 2.14 | 0.4838 | 0.0519 | 1.60 | 1 | -0.38 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $70-77$ | 77.5 | 1.49 | 0.4319 | 0.1241 | 3.85 | 5 | 0.30 |
| $62-69$ | 69.5 | 0.87 | 0.3078 | 0.213 | 6.60 | 4 | -0.39 |
| $54-61$ | 61.5 | 0.24 | 0.0948 | -0.25717 | -8.48 | 10 | -0.17 |
| $46-53$ | 53.5 | -0.38 | 0.35197 | 0.19331 | 5.99 | 4 | -0.33 |
| $38-45$ | 45.5 | -1.00 | 0.15866 | 0.10711 | 3.32 | 4 | 0.20 |
| $30-37$ | 37.5 | -1.63 | 0.05155 | 0.03933 | 1.21 | 3 | 1.48 |
|  | 29.5 | -2.25 | 0.01222 |  |  |  |  |

Based on the table above, the reseracher found that $x^{2}$ count $=0.71$ while $x^{2}$ table $=11.070$ cause $x^{2}{ }_{\text {count }}<x_{\text {table }}^{2}(0.71<11.070)$ with degree of freedom ( $\left.d k\right)=6-$ $1=5$ and significant level $\alpha=5 \%$. So distribution of VIII-2 class (pre-test) is normal.
6. Median

| No | Interval | F | Fk |
| :---: | :---: | :---: | :---: |


| 1 | $30-37$ | 3 | 3 |
| :---: | :---: | :---: | :---: |
| 2 | $38-45$ | 4 | 7 |
| 3 | $46-53$ | 4 | 11 |
| 4 | $54-61$ | 10 | 21 |
| 5 | $62-69$ | 4 | 25 |
| 6 | $70-77$ | 5 | 30 |
| 7 | $78-85$ | 1 | 31 |

Position of Me in the interval of classes is number 4, that:
$\mathrm{Bb}=53.5$
$\mathrm{F}=11$
$\mathrm{fm}=10$
i $=8$
n $=31$
$1 / 2 \mathrm{n}=15.5$

So :
$\mathrm{Me}=\mathrm{Bb}+\mathrm{i}\left(\frac{n / 2-F}{f m}\right)$
$=53.5+8\left(\frac{15.5-11}{8}\right)$

$$
\begin{aligned}
& =53.5+8(0.56) \\
& =53.5+4.48 \\
& =57.98
\end{aligned}
$$

7. Modus

| No | Interval | F | Fk |
| :---: | :---: | :---: | :---: |
| 1 | $30-37$ | 3 | 3 |
| 2 | $38-45$ | 4 | 7 |
| 3 | $46-53$ | 4 | 11 |
| 4 | $\mathbf{5 4 - 6 1}$ | $\mathbf{1 0}$ | 21 |
| 5 | $62-69$ | 4 | 25 |
| 6 | $70-77$ | 5 | 30 |
| 7 | $78-85$ | 1 | 31 |

$\mathrm{M}_{\mathrm{o}}=L+\frac{d_{1}}{d_{1}+d_{2}} i$
$\mathrm{L}=53.5$
$\mathrm{d}_{1}=10-4=6$
$\mathrm{d}_{2}=10-4=6$
i $=8$
So,
$\mathrm{M}_{\mathrm{o}}=53.5+\frac{6}{6+6} 8$
$=53.5+0.5(8)$

$$
\begin{aligned}
& =53.5+4 \\
& =57.5
\end{aligned}
$$

## RESULT OF NORMALITY TEST IN PRE-TEST

## RESULT OF THE NORMALITY TEST OF VIII-3 IN PRE-TEST

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

| 30 | 30 | 35 | 40 | 40 | 40 | 40 | 45 | 45 | 45 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| 45 | 50 | 50 | 50 | 55 | 55 | 55 | 55 | 55 | 55 |
| 55 | 55 | 55 | 55 | 55 | 60 | 65 | 65 | 70 | 70 |
| 70 | 75 | 75 |  |  |  |  |  |  |  |

2. High $=75$

Low $=30$
Range = High - Low
$=75-30$
$=45$
3. Total of Classes $=1+3,3 \log (\mathrm{n})$

$$
\begin{aligned}
& =1+3,3 \log (33) \\
& =1+3,3(1.518) \\
& =1+5.009
\end{aligned}
$$

$$
=6.009
$$

$$
=6
$$

4. Length of Classes $=\frac{\text { range }}{\text { totalofclass }}=\frac{45}{6}=7.5=7$
5. Mean

| Interval Class | F | X | x | fx | $\mathrm{x}^{\mathbf{2}}$ | $\mathrm{fx}^{{ }^{2}}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $30-36$ | 3 | 33 | +3 | 9 | 9 | 27 |
| $37-43$ | 4 | 40 | +2 | 8 | 4 | 16 |
| $44-50$ | 7 | 47 | +1 | 7 | 1 | 7 |
| $51-57$ | 11 | $\mathbf{5 4}$ | 0 | 0 | 0 | 0 |
| $58-64$ | 1 | 61 | -1 | -1 | 1 | 1 |
| $65-71$ | 5 | 68 | -2 | -10 | 4 | 20 |
| $72-78$ | 2 | 75 | -3 | -6 | 6 | 12 |
| $\boldsymbol{i = 7}$ | 33 | - | - | 7 | - | 83 |

$$
\begin{aligned}
M x & =M^{1}+i \frac{\Sigma f x^{1}}{N} \\
& =54+7\left(\frac{7}{33}\right) \\
& =54+7(0.21) \\
& =54+1.47 \\
& =55.47
\end{aligned}
$$

$$
\mathrm{SD}_{\mathrm{t}}=i \sqrt{\frac{\sum f x^{2}}{n}-\left(\frac{\sum f x \prime}{n}\right)^{2}}
$$

$$
\begin{aligned}
& =7 \sqrt{\frac{83}{33}-\left(\frac{7}{33}\right)^{2}} \\
& =7 \sqrt{2.51-(0.21)^{2}} \\
& =7 \sqrt{2.51-0.04} \\
& =7 \sqrt{2.47} \\
& =7 \times 1.57 \\
& =10.99
\end{aligned}
$$

Table of Normality Data Test with Chi Kuadrad Formula

| Interval <br> of Score | Real Upper <br> Limit | Z- <br> Score | Limit of <br> Large of the <br> Area | Large of <br> area | $f_{h}$ | $f_{0}$ | $\left(\mathrm{f}_{0}-\mathrm{f}_{\mathrm{h}}\right)$ <br> $\mathrm{f}_{\mathrm{h}}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |


| $72-78$ | 78.5 | 2.09 | 0.4817 | 0.0538 | 1.77 | 2 | 0.13 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $65-71$ | 71.5 | 1.46 | 0.4279 | 0.134 | 4.42 | 5 | 0.13 |
| $58-64$ | 64.5 | 0.82 | 0.2939 | 0.2225 | 7.34 | 1 | -0.86 |
| $51-57$ | 57.5 | 0.18 | 0.0714 | -0.25496 | -8.41 | 11 | -0.30 |
| $44-50$ | 50.5 | -0.45 | 0.32636 | 0.18629 | 6.14 | 7 | 0.14 |
| $37-43$ | 43.5 | -1.08 | 0.14007 | 0.06654 | 2.19 | 4 | 0.83 |
| $30-36$ | 39.5 | -1.45 | 0.07353 | 0.06439 | 2.12 | 3 | 0.41 |
|  | 29.5 | -2.36 | 0.00914 |  |  |  |  |

Based on the table above, the reseracher found that $x^{2}{ }_{\text {count }}=0.48$ while $x_{\text {table }}^{2}=11.070$ cause $x^{2}{ }_{\text {count }}<x_{\text {table }}^{2}(0.48<11.070)$ with degree of freedom $(d k)=6-1$ $=5$ and significant level $\alpha=5 \%$. So distribution of VIII-2 class (pre-test) is normal.
6. Median

| No | Interval | F | Fk |
| :---: | :---: | :---: | :---: |
| 1 | $30-36$ | 3 | 3 |


| 2 | $37-43$ | 4 | 7 |
| :---: | :---: | :---: | :---: |
| 3 | $44-50$ | 7 | 14 |
| 4 | $\mathbf{5 1 - 5 7}$ | 11 | 25 |
| 5 | $58-64$ | 1 | 26 |
| 6 | $65-71$ | 5 | 31 |
| 7 | $72-78$ | 2 | 33 |

Position of Me in the interval of classes is number 4, that:
$\mathrm{Bb}=50.5$
F $=14$
$\mathrm{fm}=11$
i $=7$
$\mathrm{n}=33$
$1 / 2 n=16.5$

So :

$$
\begin{aligned}
\mathrm{Me} & =\mathrm{Bb}+\mathrm{i}\left(\frac{n / 2-F}{f m}\right) \\
& =50.5+7\left(\frac{16.5-14}{7}\right) \\
& =50.5+7(0.35)
\end{aligned}
$$

$$
=50.5+2.45
$$

$$
=52.95
$$

## 7. Modus

| No | Interval | F | Fk |
| :---: | :---: | :---: | :---: |
| 1 | $30-36$ | 3 | 3 |
| 2 | $37-43$ | 4 | 7 |
| 3 | $44-50$ | 7 | 14 |
| 4 | $\mathbf{5 1 - 5 7}$ | 11 | 25 |
| 5 | $58-64$ | 1 | 26 |
| 6 | $65-71$ | 5 | 32 |
| 7 | $72-78$ | 2 | 33 |

$\mathrm{M}_{\mathrm{o}}=L+\frac{d_{1}}{d_{1}+d_{2}} i$
$\mathrm{L}=50.5$
$\mathrm{d}_{1}=11-7=4$
$\mathrm{d}_{2}=11-1=10$
i $=7$
So,
$M_{o}=50.5+\frac{4}{4+10} 7$

$$
\begin{aligned}
& =50.5+0.28(7) \\
& =50.5+1.96 \\
& =52.46
\end{aligned}
$$

## RESULT OF NORMALITY TEST IN PRE TEST

## RESULT OF THE NORMALITY TEST OF VIII-4 IN PRE-TEST

1. The score of VIII-4 class in pre test from low score to high score:

| 30 | 35 | 35 | 35 | 40 | 40 | 40 | 40 | 40 | 45 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| 50 | 50 | 55 | 55 | 55 | 55 | 60 | 60 | 60 | 60 |
| 60 | 65 | 65 | 65 | 65 | 70 | 70 | 70 | 75 | 75 |
| 75 | 75 |  |  |  |  |  |  |  |  |

$$
\begin{aligned}
\text { 2. High } & =75 \\
\text { Low } & =30 \\
\text { Range } & =\text { High }- \text { Low } \\
& =75-30 \\
& =45
\end{aligned}
$$

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

$$
\begin{aligned}
& =1+3,3 \log (32) \\
& =1+3,3(1.50)
\end{aligned}
$$

$$
\begin{aligned}
& =1+4.95 \\
& =5.95 \\
& =6
\end{aligned}
$$

4. Length of Classes $=\frac{\text { range }}{\text { totalofclass }}=\frac{45}{6}=7.5=8$
5. Mean

| Interval Class | F | X | x | fx | $\mathrm{x}^{2}$ | $\mathrm{fx}^{2}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $30-37$ | 4 | 33.5 | +3 | 12 | 9 | 36 |
| $38-45$ | 6 | 41.5 | +2 | 12 | 4 | 24 |
| $46-53$ | 2 | 49.5 | +1 | 2 | 1 | 2 |
| $54-61$ | 9 | $\mathbf{5 7 . 5}$ | 0 | 0 | 0 | 0 |
| $62-69$ | 4 | 65.5 | -1 | -4 | 1 | 4 |
| $70-77$ | 7 | 73.5 | -2 | -14 | 4 | 28 |
| $i=8$ | 32 | - | - | 8 | - | 94 |

$M x=M^{1}+i \frac{\Sigma f x^{1}}{N}$
$=57.5+8\left(\frac{8}{32}\right)$
$=57.5+8(0.25)$
$=57.5+2$
$=59.5$
$\mathrm{SD}_{\mathrm{t}}=i \sqrt{\frac{\sum f x^{2}}{n}-\left(\frac{\sum f x \prime}{n}\right)^{2}}$

$$
\begin{aligned}
& =8 \sqrt{\frac{94}{32}-\left(\frac{8}{32}\right)^{2}} \\
& =8 \sqrt{2.93-(0.25)^{2}} \\
& =8 \sqrt{2.93-0.062} \\
& =8 \sqrt{2.86} \\
& =8 \times 1.69 \\
& =13.52
\end{aligned}
$$

Table of Normality Data Test with Chi Kuadrad Formula

| Interval <br> of Score | Real Upper <br> Limit | Z- <br> Score | Limit of <br> Large of the <br> Area | Large of <br> area | $f_{h}$ | $f_{0}$ | $\left(f_{0}-f_{h}\right)$ <br> $f_{h}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |


| $70-77$ | 77.5 | 1.33 | 0.4082 | 0.1378 | 4.40 | 7 | 0.60 |
| :---: | :--- | :---: | :---: | :---: | :---: | :---: | :---: |
| $62-69$ | 69.5 | 0.74 | 0.2704 | 0.2108 | 6.74 | 4 | -0.40 |
| $54-61$ | 61.5 | 0.15 | 0.0596 | -0.27037 | -8.65 | 9 | -0.04 |
| $46-53$ | 53.5 | -0.44 | 0.32997 | 0.17846 | 5.71 | 2 | -0.65 |
| $38-45$ | 45.5 | -1.03 | 0.15151 | 0.09996 | 3.20 | 6 | 0.87 |
| $30-37$ | 37.5 | -1.63 | 0.05155 | 0.038 | 1.21 | 4 | 2.30 |
|  | 29.5 | -2.21 | 0.01355 |  |  |  |  |

Based on the table above, the reseracher found that $\mathrm{x}_{\text {count }}^{2}=2.68$ while $\mathrm{x}_{\text {table }}^{2}=11.070$ cause $\mathrm{x}_{\text {count }}^{2}<\mathrm{x}_{\text {table }}{ }^{2}(2.68<11.070)$ with degree of freedom ( dk ) $=6-1$ $=5$ and significant level $\alpha=5 \%$. So distribution of VIII-2 class (pre-test) is normal.
6. Median

| No | Interval | F | Fk |
| :---: | :---: | :---: | :---: |
| 1 | $30-37$ | 4 | 4 |
| 2 | $38-45$ | 6 | 10 |
| 3 | $46-53$ | 2 | 12 |
| 4 | $\mathbf{5 4 - 6 1}$ | 9 | 21 |
| 5 | $62-69$ | 4 | 25 |


| 6 | $70-77$ | 7 | 32 |
| :--- | :---: | :---: | :---: |

Position of Me in the interval of classes is number 4, that:
$\mathrm{Bb}=53.5$
F $=12$
$\mathrm{fm}=9$
i $=8$
$\mathrm{n}=32$
$1 / 2 \mathrm{n}=16$

So :

$$
\begin{aligned}
\mathrm{Me} & =\mathrm{Bb}+\mathrm{i}\left(\frac{n / 2-F}{f m}\right) \\
& =53.5+8\left(\frac{16 .-12}{9}\right) \\
& =53.5+8(0.44) \\
& =53.5+3.52 \\
& =57.02
\end{aligned}
$$

## 7. Modus

| No | Interval | F | Fk |
| :---: | :---: | :---: | :---: |
| 1 | $30-37$ | 4 | 4 |
| 2 | $38-45$ | 6 | 10 |
| 3 | $46-53$ | 2 | 12 |
| 4 | $\mathbf{5 4 - 6 1}$ | 9 | 21 |
| 5 | $62-69$ | 4 | 25 |
| 6 | $70-77$ | 7 | 32 |

$\mathrm{M}_{\mathrm{o}}=L+\frac{d_{1}}{d_{1}+d_{2}} i$
$\mathrm{L}=53.5$
$d_{1}=9-2=7$
$\mathrm{d}_{2}=9-4=5$
i $=8$
So,
$M_{o}=53.5+\frac{7}{7+5} 8$
$=53.5+0.58(8)$
$=53.5+4.64$
$=58.14$

Appendix 19

## RESULT OF NORMALITY TEST IN PRE TEST

## RESULT OF THE NORMALITY TEST OF VIII-2 IN PRE-TEST

8. The score of VIII-2 class in pre test from low score to high score:

| 30 | 35 | 35 | 40 | 40 | 45 | 45 | 50 | 50 | 50 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| 50 | 55 | 55 | 55 | 55 | 60 | 60 | 60 | 60 | 60 |
| 60 | 65 | 65 | 65 | 65 | 70 | 70 | 75 | 75 | 75 |
| 80 |  |  |  |  |  |  |  |  |  |

9. High $=80$

Low $=30$
Range = High - Low

$$
=80-30
$$

$$
=50
$$

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

$$
=1+3,3 \log (31)
$$

$$
\begin{aligned}
& =1+3,3(1.49) \\
& =1+4.92 \\
& =5.92 \\
& =6
\end{aligned}
$$

11. Length of Classes $=\frac{\text { range }}{\text { totalofclass }} \quad=\frac{50}{6}=8.33=8$
12. Mean

| Interval Class | F | X | x | fx | $\mathrm{x}^{2}$ | $\mathrm{fx}^{2}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $30-37$ | 3 | 33 | +3 | 9 | 9 | 27 |
| $38-45$ | 4 | 41 | +2 | 8 | 4 | 16 |
| $46-53$ | 4 | 49 | +1 | 4 | 1 | 4 |
| $54-61$ | 10 | $\mathbf{5 7}$ | 0 | 0 | 0 | 0 |
| $62-69$ | 4 | 65 | -1 | -3 | 1 | 4 |
| $70-77$ | 5 | 73 | -2 | -10 | 4 | 20 |
| $78-85$ | 1 | 81 | -3 | -3 | 9 | 9 |
| $\boldsymbol{i} 8$ | 31 | - | - | 5 | - | 80 |

$$
\begin{aligned}
M x & =M^{1}+i \frac{\Sigma f x^{1}}{N} \\
& =57+8\left(\frac{5}{31}\right) \\
& =57+8(0.17) \\
& =57+1.36
\end{aligned}
$$

$=58.36$

$$
\begin{aligned}
\mathrm{SD}_{\mathrm{t}} & =i \sqrt{\frac{\sum f x^{\prime}}{n}-\left(\frac{\sum f x \prime}{n}\right)^{2}} \\
& =8 \sqrt{\frac{80}{31}-\left(\frac{5}{31}\right)^{2}} \\
& =8 \sqrt{2.58-(0.17)^{2}} \\
& =8 \sqrt{2.58-0.02} \\
& =8 \sqrt{2.56} \\
& =8 \times 1.6 \\
& =12.8
\end{aligned}
$$

Table of Normality Data Test with Chi Kuadrad Formula

| Interval <br> of Score | Real Upper <br> Limit | $\mathrm{Z}-$ <br> Score | Limit of <br> Large of the <br> Area | Large of <br> area | $\mathrm{f}_{\mathrm{h}}$ | $\mathrm{f}_{0}$ | $\frac{\left(\mathrm{f}_{0}-\mathrm{f}_{\mathrm{h}}\right)}{\mathrm{f}_{\mathrm{h}}}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |


| $78-85$ | 85.5 | 2.14 | 0.4838 | 0.0519 | 1.60 | 1 | -0.38 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $70-77$ | 77.5 | 1.49 | 0.4319 | 0.1241 | 3.85 | 5 | 0.30 |
| $62-69$ | 69.5 | 0.87 | 0.3078 | 0.213 | 6.60 | 4 | -0.39 |
| $54-61$ | 61.5 | 0.24 | 0.0948 | -0.25717 | -8.48 | 10 | -0.17 |
| $46-53$ | 53.5 | -0.38 | 0.35197 | 0.19331 | 5.99 | 4 | -0.33 |
| $38-45$ | 45.5 | -1.00 | 0.15866 | 0.10711 | 3.32 | 4 | 0.20 |
| $30-37$ | 37.5 | -1.63 | 0.05155 | 0.03933 | 1.21 | 3 | 1.48 |
|  | 29.5 | -2.25 | 0.01222 |  |  |  |  |

Based on the table above, the reseracher found that $x^{2}$ count $=0.71$ while $x^{2}{ }_{\text {table }}=11.070$ cause $x^{2}{ }_{\text {count }}<x_{\text {table }}^{2}(0.71<11.070)$ with degree of freedom ( $\left.d k\right)=6-$ $1=5$ and significant level $\alpha=5 \%$. So distribution of VIII-2 class (pre-test) is normal.
13. Median

| No | Interval | F | Fk |
| :---: | :---: | :---: | :---: |


| 1 | $30-37$ | 3 | 3 |
| :---: | :---: | :---: | :---: |
| 2 | $38-45$ | 4 | 7 |
| 3 | $46-53$ | 4 | 11 |
| 4 | $54-61$ | 10 | 21 |
| 5 | $62-69$ | 4 | 25 |
| 6 | $70-77$ | 5 | 30 |
| 7 | $78-85$ | 1 | 31 |

Position of Me in the interval of classes is number 4, that:
$\mathrm{Bb}=53.5$
$\mathrm{F}=11$
$\mathrm{fm}=10$
i $=8$
n $=31$
$1 / 2 \mathrm{n}=15.5$

So :
$\mathrm{Me}=\mathrm{Bb}+\mathrm{i}\left(\frac{n / 2-F}{f m}\right)$
$=53.5+8\left(\frac{15.5-11}{8}\right)$

$$
\begin{aligned}
& =53.5+8(0.56) \\
& =53.5+4.48 \\
& =57.98
\end{aligned}
$$

14. Modus

| No | Interval | F | Fk |
| :---: | :---: | :---: | :---: |
| 1 | $30-37$ | 3 | 3 |
| 2 | $38-45$ | 4 | 7 |
| 3 | $46-53$ | 4 | 11 |
| 4 | $\mathbf{5 4 - 6 1}$ | $\mathbf{1 0}$ | 21 |
| 5 | $62-69$ | 4 | 25 |
| 6 | $70-77$ | 5 | 30 |
| 7 | $78-85$ | 1 | 31 |

$\mathrm{M}_{\mathrm{o}}=L+\frac{d_{1}}{d_{1}+d_{2}} i$
$\mathrm{L}=53.5$
$\mathrm{d}_{1}=10-4=6$
$\mathrm{d}_{2}=10-4=6$
i $=8$
So,
$\mathrm{M}_{\mathrm{o}}=53.5+\frac{6}{6+6} 8$
$=53.5+0.5(8)$

$$
\begin{aligned}
& =53.5+4 \\
& =57.5
\end{aligned}
$$

## RESULT OF NORMALITY TEST IN PRE-TEST

## RESULT OF THE NORMALITY TEST OF VIII-3 IN PRE-TEST

8. The score of VIII-3 class in pre test from low score to high score:

| 30 | 30 | 35 | 40 | 40 | 40 | 40 | 45 | 45 | 45 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| 45 | 50 | 50 | 50 | 55 | 55 | 55 | 55 | 55 | 55 |
| 55 | 55 | 55 | 55 | 55 | 60 | 65 | 65 | 70 | 70 |
| 70 | 75 | 75 |  |  |  |  |  |  |  |

9. High $=75$

Low $=30$
Range = High - Low
$=75-30$
$=45$
10. Total of Classes $=1+3,3 \log (\mathrm{n})$

$$
\begin{aligned}
& =1+3,3 \log (33) \\
& =1+3,3(1.518) \\
& =1+5.009
\end{aligned}
$$

$$
=6.009
$$

$$
=6
$$

11. Length of Classes $=\frac{\text { range }}{\text { totalofclass }}=\frac{45}{6}=7.5=7$
12. Mean

| Interval Class | F | X | x | fx | $\mathrm{x}^{\prime 2}$ | $\mathrm{fx}^{\prime 2}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $30-36$ | 3 | 33 | +3 | 9 | 9 | 27 |
| $37-43$ | 4 | 40 | +2 | 8 | 4 | 16 |
| $44-50$ | 7 | 47 | +1 | 7 | 1 | 7 |
| $51-57$ | 11 | $\mathbf{5 4}$ | 0 | 0 | 0 | 0 |
| $58-64$ | 1 | 61 | -1 | -1 | 1 | 1 |
| $65-71$ | 5 | 68 | -2 | -10 | 4 | 20 |
| $72-78$ | 2 | 75 | -3 | -6 | 6 | 12 |
| $\boldsymbol{i = 7}$ | 33 | - | - | 7 | - | 83 |

$$
\begin{aligned}
M x & =M^{1}+i \frac{\Sigma f x^{1}}{N} \\
& =54+7\left(\frac{7}{33}\right) \\
& =54+7(0.21) \\
& =54+1.47 \\
& =55.47
\end{aligned}
$$

$$
\mathrm{SD}_{\mathrm{t}}=i \sqrt{\frac{\sum f x^{2}}{n}-\left(\frac{\sum f x \prime}{n}\right)^{2}}
$$

$$
\begin{aligned}
& =7 \sqrt{\frac{83}{33}-\left(\frac{7}{33}\right)^{2}} \\
& =7 \sqrt{2.51-(0.21)^{2}} \\
& =7 \sqrt{2.51-0.04} \\
& =7 \sqrt{2.47} \\
& =7 \times 1.57 \\
& =10.99
\end{aligned}
$$

Table of Normality Data Test with Chi Kuadrad Formula

| Interval <br> of Score | Real Upper <br> Limit | Z- <br> Score | Limit of <br> Large of the <br> Area | Large of <br> area | $f_{h}$ | $f_{0}$ | $\left(\mathrm{f}_{0}-\mathrm{f}_{\mathrm{h}}\right)$ <br> $\mathrm{f}_{\mathrm{h}}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |


| $72-78$ | 78.5 | 2.09 | 0.4817 | 0.0538 | 1.77 | 2 | 0.13 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $65-71$ | 71.5 | 1.46 | 0.4279 | 0.134 | 4.42 | 5 | 0.13 |
| $58-64$ | 64.5 | 0.82 | 0.2939 | 0.2225 | 7.34 | 1 | -0.86 |
| $51-57$ | 57.5 | 0.18 | 0.0714 | -0.25496 | -8.41 | 11 | -0.30 |
| $44-50$ | 50.5 | -0.45 | 0.32636 | 0.18629 | 6.14 | 7 | 0.14 |
| $37-43$ | 43.5 | -1.08 | 0.14007 | 0.06654 | 2.19 | 4 | 0.83 |
| $30-36$ | 39.5 | -1.45 | 0.07353 | 0.06439 | 2.12 | 3 | 0.41 |
|  | 29.5 | -2.36 | 0.00914 |  |  |  |  |

Based on the table above, the reseracher found that $x^{2}{ }_{\text {count }}=0.48$ while $x^{2}{ }_{\text {table }}=11.070$ cause $x^{2}{ }_{\text {count }}<x^{2}{ }_{\text {table }}(0.48<11.070)$ with degree of freedom ( $\left.d \mathrm{dk}\right)=6-1$ $=5$ and significant level $\alpha=5 \%$. So distribution of VIII-2 class (pre-test) is normal.

## 13. Median

| No | Interval | F | Fk |
| :---: | :---: | :---: | :---: |
| 1 | $30-36$ | 3 | 3 |


| 2 | $37-43$ | 4 | 7 |
| :---: | :---: | :---: | :---: |
| 3 | $44-50$ | 7 | 14 |
| 4 | $\mathbf{5 1 - 5 7}$ | 11 | 25 |
| 5 | $58-64$ | 1 | 26 |
| 6 | $65-71$ | 5 | 31 |
| 7 | $72-78$ | 2 | 33 |

Position of Me in the interval of classes is number 4, that:
$\mathrm{Bb}=50.5$
F $=14$
$\mathrm{fm}=11$
i $=7$
$\mathrm{n}=33$
$1 / 2 n=16.5$

So :

$$
\begin{aligned}
\mathrm{Me} & =\mathrm{Bb}+\mathrm{i}\left(\frac{n / 2-F}{f m}\right) \\
& =50.5+7\left(\frac{16.5-14}{7}\right) \\
& =50.5+7(0.35)
\end{aligned}
$$

$$
=50.5+2.45
$$

$$
=52.95
$$

## 14. Modus

| No | Interval | F | Fk |
| :---: | :---: | :---: | :---: |
| 1 | $30-36$ | 3 | 3 |
| 2 | $37-43$ | 4 | 7 |
| 3 | $44-50$ | 7 | 14 |
| 4 | $\mathbf{5 1 - 5 7}$ | 11 | 25 |
| 5 | $58-64$ | 1 | 26 |
| 6 | $65-71$ | 5 | 32 |
| 7 | $72-78$ | 2 | 33 |

$\mathrm{M}_{\mathrm{o}}=L+\frac{d_{1}}{d_{1}+d_{2}} i$
$\mathrm{L}=50.5$
$\mathrm{d}_{1}=11-7=4$
$\mathrm{d}_{2}=11-1=10$
i $=7$
So,
$M_{o}=50.5+\frac{4}{4+10} 7$

$$
\begin{aligned}
& =50.5+0.28(7) \\
& =50.5+1.96 \\
& =52.46
\end{aligned}
$$

## RESULT OF NORMALITY TEST IN PRE TEST

## RESULT OF THE NORMALITY TEST OF VIII-4 IN PRE-TEST

8. The score of VIII-4 class in pre test from low score to high score:

| 30 | 35 | 35 | 35 | 40 | 40 | 40 | 40 | 40 | 45 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| 50 | 50 | 55 | 55 | 55 | 55 | 60 | 60 | 60 | 60 |
| 60 | 65 | 65 | 65 | 65 | 70 | 70 | 70 | 75 | 75 |
| 75 | 75 |  |  |  |  |  |  |  |  |

9. High $=75$

Low $=30$
Range $=$ High - Low

$$
=75-30
$$

$$
=45
$$

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

$$
\begin{aligned}
& =1+3,3 \log (32) \\
& =1+3,3(1.50)
\end{aligned}
$$

$$
\begin{aligned}
& =1+4.95 \\
& =5.95 \\
& =6
\end{aligned}
$$

11. Length of Classes $=\frac{\text { range }}{\text { totalofclass }}=\frac{45}{6}=7.5=8$
12. Mean

| Interval Class | F | X | x | fx | $\mathrm{x}^{2}$ | $\mathrm{fx}^{2}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $30-37$ | 4 | 33.5 | +3 | 12 | 9 | 36 |
| $38-45$ | 6 | 41.5 | +2 | 12 | 4 | 24 |
| $46-53$ | 2 | 49.5 | +1 | 2 | 1 | 2 |
| $54-61$ | 9 | $\mathbf{5 7 . 5}$ | 0 | 0 | 0 | 0 |
| $62-69$ | 4 | 65.5 | -1 | -4 | 1 | 4 |
| $70-77$ | 7 | 73.5 | -2 | -14 | 4 | 28 |
| $i=8$ | 32 | - | - | 8 | - | 94 |

$$
\begin{aligned}
M x & =M^{1}+i \frac{\Sigma f x^{1}}{N} \\
& =57.5+8\left(\frac{8}{32}\right) \\
& =57.5+8(0.25)
\end{aligned}
$$

$$
=57.5+2
$$

$$
=59.5
$$

$$
\mathrm{SD}_{\mathrm{t}}=i \sqrt{\frac{\sum f x^{2}}{n}-\left(\frac{\sum f x \prime}{n}\right)^{2}}
$$

$$
\begin{aligned}
& =8 \sqrt{\frac{94}{32}-\left(\frac{8}{32}\right)^{2}} \\
& =8 \sqrt{2.93-(0.25)^{2}} \\
& =8 \sqrt{2.93-0.062} \\
& =8 \sqrt{2.86} \\
& =8 \times 1.69 \\
& =13.52
\end{aligned}
$$

Table of Normality Data Test with Chi Kuadrad Formula

| Interval <br> of Score | Real Upper <br> Limit | Z- <br> Score | Limit of <br> Large of the <br> Area | Large of <br> area | $f_{h}$ | $f_{0}$ | $\left(f_{0}-f_{h}\right)$ <br> $f_{h}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |


| $70-77$ | 77.5 | 1.33 | 0.4082 | 0.1378 | 4.40 | 7 | 0.60 |
| :---: | :--- | :---: | :---: | :---: | :---: | :---: | :---: |
| $62-69$ | 69.5 | 0.74 | 0.2704 | 0.2108 | 6.74 | 4 | -0.40 |
| $54-61$ | 61.5 | 0.15 | 0.0596 | -0.27037 | -8.65 | 9 | -0.04 |
| $46-53$ | 53.5 | -0.44 | 0.32997 | 0.17846 | 5.71 | 2 | -0.65 |
| $38-45$ | 45.5 | -1.03 | 0.15151 | 0.09996 | 3.20 | 6 | 0.87 |
| $30-37$ | 37.5 | -1.63 | 0.05155 | 0.038 | 1.21 | 4 | 2.30 |
|  | 29.5 | -2.21 | 0.01355 |  |  |  |  |

Based on the table above, the reseracher found that $\mathrm{x}_{\text {count }}^{2}=2.68$ while $\mathrm{x}_{\text {table }}^{2}=11.070$ cause $\mathrm{x}_{\text {count }}^{2}<\mathrm{x}_{\text {table }}^{2}(2.68<11.070)$ with degree of freedom ( dk ) $=6-1$ $=5$ and significant level $\alpha=5 \%$. So distribution of VIII-2 class (pre-test) is normal.
13. Median

| No | Interval | F | Fk |
| :---: | :---: | :---: | :---: |
| 1 | $30-37$ | 4 | 4 |
| 2 | $38-45$ | 6 | 10 |
| 3 | $46-53$ | 2 | 12 |
| 4 | $\mathbf{5 4 - 6 1}$ | 9 | 21 |
| 5 | $62-69$ | 4 | 25 |


| 6 | $70-77$ | 7 | 32 |
| :--- | :---: | :---: | :---: |

Position of Me in the interval of classes is number 4, that:
$\mathrm{Bb}=53.5$
F $=12$
$\mathrm{fm}=9$
i $=8$
$\mathrm{n}=32$
$1 / 2 \mathrm{n}=16$

So :

$$
\begin{aligned}
\mathrm{Me} & =\mathrm{Bb}+\mathrm{i}\left(\frac{n / 2-F}{f m}\right) \\
& =53.5+8\left(\frac{16 .-12}{9}\right) \\
& =53.5+8(0.44) \\
& =53.5+3.52 \\
& =57.02
\end{aligned}
$$

## 14. Modus

| No | Interval | F | Fk |
| :---: | :---: | :---: | :---: |
| 1 | $30-37$ | 4 | 4 |
| 2 | $38-45$ | 6 | 10 |
| 3 | $46-53$ | 2 | 12 |
| 4 | $\mathbf{5 4 - 6 1}$ | 9 | 21 |
| 5 | $62-69$ | 4 | 25 |
| 6 | $70-77$ | 7 | 32 |

$\mathrm{M}_{\mathrm{o}}=L+\frac{d_{1}}{d_{1}+d_{2}} i$
$\mathrm{L}=53.5$
$d_{1}=9-2=7$
$\mathrm{d}_{2}=9-4=5$
i $=8$
So,
$M_{o}=53.5+\frac{7}{7+5} 8$
$=53.5+0.58(8)$
$=53.5+4.64$
$=58.14$

Appendix 20

## RESULT OF NORMALITY TEST IN POST TEST

## RESULT OF THE NORMALITY TEST OF VIII-2 IN POST-TEST

15. The score of VIII-2 class in post test from low score to high score:

| 65 | 70 | 70 | 75 | 75 | 75 | 80 | 80 | 80 | 80 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| 80 | 80 | 80 | 85 | 85 | 85 | 85 | 85 | 85 | 85 |
| 85 | 85 | 85 | 85 | 90 | 90 | 90 | 90 | 95 | 95 |
| 100 |  |  |  |  |  |  |  |  |  |


| 16. High | $=100$ |
| ---: | :--- |
| Low | $=65$ |
| Range | $=$ High - Low |
|  | $=100-65$ |
|  | $=35$ |

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

$$
=1+3,3 \log (31)
$$

$$
=1+3,3(1.49)
$$

$$
=1+4.92
$$

$$
=5.92
$$

$$
=6
$$

18. Length of Classes $=\frac{\text { range }}{\text { totalofclass }}=\frac{35}{6}=5.83=6$
19. Mean

| Interval Class | F | X | x | fx | $\mathrm{x}^{2}$ | $\mathrm{fx}^{2}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $65-70$ | 3 | 67.5 | +3 | 9 | 9 | 27 |
| $71-76$ | 3 | 73.5 | +2 | 6 | 4 | 12 |
| $77-82$ | 7 | 79.5 | +1 | 7 | 1 | 7 |
| $83-88$ | 11 | $\mathbf{8 5 . 5}$ | 0 | 0 | 0 | 0 |
| $89-94$ | 4 | 91.5 | -1 | -4 | 1 | 4 |
| $95-100$ | 3 | 97.5 | -2 | -6 | 4 | 12 |
| $i=6$ | 31 | - | - | 12 | - | 62 |

$M x=M^{1}+i \frac{\Sigma f x^{1}}{N}$
$=85.5+6\left(\frac{12}{31}\right)$
$=85.5+6$ (0.38)
$=85.5+2.28$
$=87.78$

$$
\begin{aligned}
\mathrm{SD}_{\mathrm{t}} & =i \sqrt{\frac{\sum f x^{2}}{n}-\left(\frac{\sum f x \prime}{n}\right)^{2}} \\
& =6 \sqrt{\frac{62}{31}-\left(\frac{12}{31}\right)^{2}} \\
& =6 \sqrt{2-(0.38)^{2}}
\end{aligned}
$$

$$
\begin{aligned}
& =6 \sqrt{2-0.14} \\
& =6 \sqrt{1.86} \\
& =6 \times 1.36 \\
& =9.6
\end{aligned}
$$

Table of Normality Data Test with Chi Kuadrad Formula

| Interval <br> of Score | Real <br> Upper <br> Limit | $\mathrm{Z}-$ <br> Score | Limit of <br> Large of the <br> Area | Large of <br> area | $\mathrm{f}_{\mathrm{h}}$ | $\mathrm{f}_{0}$ | $\frac{\left(\mathrm{f}_{0}-\mathrm{f}_{\mathrm{h}}\right)}{\mathrm{f}_{\mathrm{h}}}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $95-100$ | 100.5 | 1.31 | 0.4066 | 0.1486 | 4.60 | 3 | -0.35 |
| $89-94$ | 94.5 | 0.70 | 0.2580 | 0.2301 | 7.13 | 4 | -0.44 |
| $83-88$ | 88.5 | 0.07 | 0.0279 | -0.26326 | -8.16 | 11 | -0.34 |
| $77-82$ | 82.5 | -0.55 | 0.29116 | 0.17016 | 5.27 | 7 | 0.33 |
| $71-76$ | 76.5 | -1.17 | 0.12100 | 0.08507 | 2.63 | 3 | 0.14 |
| $65-70$ | 70.5 | -1.80 | 0.03593 | 0.02817 | 0.87 | 3 | 2.45 |
|  | 64.5 | -2.42 | 0.00776 |  |  |  |  |

Based on the table above, the reseracher found that $x_{\text {count }}^{2}=1.79$ while $x^{2}{ }_{\text {table }}=11.070$ cause $x^{2}{ }_{\text {count }}<x_{\text {table }}^{2}(1.79<11.070)$ with degree of freedom ( $\left.d \mathrm{dk}\right)=6-$ $1=5$ and significant level $\alpha=5 \%$. So distribution of VIII-2 class (post-test) is normal.
20. Median

| No | Interval | F | Fk |
| :---: | :---: | :---: | :---: |
| 1 | $65-70$ | 3 | 3 |
| 2 | $71-76$ | 3 | 6 |
| 3 | $77-82$ | 7 | 13 |
| 4 | $\mathbf{8 3}-\mathbf{8 8}$ | $\mathbf{1 1}$ | 24 |
| 5 | $89-94$ | 4 | 28 |
| 6 | $95-100$ | 3 | 31 |

Position of Me in the interval of classes is number 4, that:
$\mathrm{Bb}=82.5$
F $=13$
$\mathrm{fm}=11$
i $=6$
$\mathrm{n}=31$
$1 / 2 \mathrm{n}=15.5$

So :

$$
\begin{aligned}
\mathrm{Me} & =\mathrm{Bb}+\mathrm{i}\left(\frac{n / 2-F}{f m}\right) \\
& =82.5+6\left(\frac{15.5-13}{11}\right) \\
& =82.5+6(0.23) \\
& =82.5+1.38 \\
& =83.88
\end{aligned}
$$

21. Modus

| No | Interval | F | Fk |
| :---: | :---: | :---: | :---: |
| 1 | $65-70$ | 3 | 3 |
| 2 | $71-76$ | 3 | 6 |
| 3 | $77-82$ | 7 | 13 |
| 4 | $\mathbf{8 3 - 8 8}$ | 11 | 24 |
| 5 | $89-94$ | 4 | 28 |
| 6 | $95-100$ | 3 | 31 |

$\mathrm{M}_{\mathrm{o}}=L+\frac{d_{1}}{d_{1}+d_{2}} i$
$\mathrm{L}=82.5$
$\mathrm{d}_{1}=11-7=4$
$\mathrm{d}_{2}=11-4=7$
i $=6$

$$
\begin{aligned}
\text { So, } \\
\begin{aligned}
\mathrm{M}_{\mathrm{o}} & =82.5+\frac{4}{4+7} 6 \\
& =82.5+0.36(6) \\
& =82.5+2.16 \\
& =84.66
\end{aligned} .
\end{aligned}
$$

## RESULT OF NORMALITY TEST IN POST-TEST

## RESULT OF THE NORMALITY TEST OF VIII-3 IN POST-TEST

15. The score of VIII-3 class in post test from low score to high score:

| 50 | 60 | 60 | 60 | 60 | 60 | 65 | 65 | 65 | 65 |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 65 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 |  |
| 75 | 75 | 75 | 75 | 80 | 80 | 80 | 80 | 85 | 85 |  |
| 90 | 95 | 95 |  |  |  |  |  |  |  |  |


| 16. High | $=95$ |
| ---: | :--- |
| Low | $=65$ |
| Range | $=$ High - Low |
|  | $=95-50$ |
|  | $=45$ |

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

$$
\begin{aligned}
& =1+3,3 \log (33) \\
& =1+3,3(1.518) \\
& =1+5.009 \\
& =6.009 \\
& =6
\end{aligned}
$$

18. Length of Classes $=\frac{\text { range }}{\text { totalofclass }}=\frac{45}{6}=7.5=7$
19. Mean

| Interval Class | F | X | x | fx | $\mathrm{x}^{2}$ | $\mathrm{fx}^{2}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $50-56$ | 1 | 53 | +3 | 3 | 9 | 9 |
| $57-63$ | 5 | 60 | +2 | 10 | 4 | 20 |
| $64-69$ | 5 | 67 | +1 | 5 | 1 | 5 |
| $70-76$ | 13 | 73 | 0 | 0 | 0 | 0 |
| $77-83$ | 4 | 80 | -1 | -4 | 1 | 4 |
| $84-90$ | 3 | 87 | -2 | -6 | 4 | 12 |
| $91-97$ | 2 | 94 | -3 | -6 | 9 | 18 |
| $\mathrm{i}=7$ |  | - | - | 2 | - | 68 |

$$
\begin{aligned}
M x & =M^{1}+i \frac{\Sigma f x^{1}}{N} \\
& =73+7\left(\frac{2}{33}\right) \\
& =73+7(0.06) \\
& =73+0.42
\end{aligned}
$$

$$
=73.42
$$

$$
\begin{aligned}
\mathrm{SD}_{\mathrm{t}} & =i \sqrt{\frac{\sum f x^{2}}{n}-\left(\frac{\sum f x^{\prime}}{n}\right)^{2}} \\
& =7 \sqrt{\frac{68}{33}-\left(\frac{2}{33}\right)^{2}} \\
& =7 \sqrt{2.06-(0.06)^{2}} \\
& =7 \sqrt{2.06-0.003} \\
& =7 \sqrt{2.05} \\
& =7 \times 1.43 \\
& =10.01
\end{aligned}
$$

Table of Normality Data Test with Chi Kuadrad Formula

| Interval <br> of Score | Real Upper <br> Limit | Z- <br> Score | Limit of <br> Large of the <br> Area | Large of <br> area | $f_{h}$ | $f_{0}$ | $\frac{\left(f_{0}-f_{h}\right)}{f_{h}}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |


| $91-97$ | 97.5 | 2.40 | 0.4922 | 0.0368 | 1.21 | 2 | 0.65 |
| :---: | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| $84-90$ | 90.5 | 1.70 | 0.4554 | 0.1141 | 3.76 | 3 | -0.20 |
| $77-83$ | 83.5 | 1.00 | 0.3413 | 0.2196 | 7.24 | 4 | -0.45 |
| $70-76$ | 76.5 | 0.31 | 0.1217 | -0.22657 | -7.48 | 13 | -0.74 |
| $64-69$ | 69.5 | -0.39 | 0.34827 | 0.18718 | 6.17 | 5 | -0.18 |
| $57-63$ | 63.5 | -0.99 | 0.16109 | 0.14979 | 4.94 | 5 | 0.01 |
| $50-56$ | 50.5 | -2.28 | 0.01130 | 0.00264 | 0.08 | 1 | 11.5 |
|  | 49.5 | -2.38 | 0.00866 |  |  |  |  |

Based on the table above, the reseracher found that $\mathrm{x}^{2}{ }_{\text {count }}=10.59$ while $\mathrm{x}^{2}{ }_{\text {table }}=11.070$ cause $\mathrm{x}^{2}{ }_{\text {count }}<\mathrm{x}^{2}$ table $(10.59<11.070)$ with degree of freedom $(\mathrm{dk})=6-$ $1=5$ and significant level $\alpha=5 \%$. So distribution of VIII-3 class (pre-test) is normal.

## 20. Median

| No | Interval | F | Fk |
| :---: | :---: | :---: | :---: |
| 1 | $50-56$ | 1 | 4 |
| 2 | $57-63$ | 5 | 8 |
| 3 | $64-69$ | 5 | 16 |


| 4 | $\mathbf{7 0}-\mathbf{7 6}$ | 13 | 26 |
| :---: | :---: | :---: | :---: |
| 5 | $84-90$ | 3 | 30 |
| 6 | $91-97$ | 2 | 33 |

Position of Me in the interval of classes is number 4, that:
$\mathrm{Bb}=69.5$
$\mathrm{F}=11$
$\mathrm{fm}=13$
i $=7$
$\mathrm{n}=33$
$1 / 2 \mathrm{n}=16.5$

So :
$\mathrm{Me}=\mathrm{Bb}+\mathrm{i}\left(\frac{n / 2-F}{f m}\right)$
$=69.5+7\left(\frac{16.5-11}{13}\right)$
$=69.5+7(0.42)$
$=69.5+02.94$
$=77.44$

## 21. Modus

| No | Interval | F | Fk |
| :---: | :---: | :---: | :---: |
| 1 | $50-56$ | 1 | 4 |
| 2 | $57-63$ | 5 | 8 |
| 3 | $64-69$ | 5 | 16 |
| 4 | $\mathbf{7 0}-\mathbf{7 6}$ | 13 | 26 |
| 5 | $84-90$ | 3 | 30 |
| 6 | $91-97$ | 2 | 33 |

$\mathrm{M}_{\mathrm{o}}=L+\frac{d_{1}}{d_{1}+d_{2}} i$
$\mathrm{L}=69.5$
$d_{1}=13-5=8$
$\mathrm{d}_{2}=13-4=9$
i $=7$

So,
$M_{0}=69.5+\frac{8}{8+9} 7$

$$
=69.5+0.47(7)
$$

$$
=69.5+3.29
$$

## Appendix 21

## T-test ofthe Both Averages in Pre-Test

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

$$
T t=\frac{M_{1}-M_{2}}{\sqrt{\left(\frac{\left(n_{1}-1\right) s_{1}^{2}+\left(n_{2}-1\right) s_{2}^{2}}{n_{1}+n_{2}-2}\right)\left(\frac{1}{n_{1}}+\frac{1}{n_{2}}\right)}}
$$

$$
T t=\frac{58.36-55.47}{\sqrt{\left(\frac{(31-1) 163.97+(33-1) 142.33}{31+33-2}\right)\left(\frac{1}{31}+\frac{1}{33}\right)}}
$$

$$
T t=\frac{2.89}{\sqrt{\left(\frac{30(163.97)+32(142.33)}{62}\right)(0.032+0.030)}}
$$

$$
T t=\frac{2.89}{\sqrt{\left(\frac{4919.1+4554.56}{62}\right)(0.032+0.030)}}
$$

$$
T t=\frac{2.89}{\sqrt{\left(\frac{9473.66}{62}\right)(0.062)}}
$$

$T t=\frac{2.89}{\sqrt{152.80(0.062)}}$
$T t=\frac{2.89}{\sqrt{9.47}}$
$T t=\frac{2.89}{3.07}$
$T t=0.94$
Based on researcher calculation result of homogeneity test of the both averages, researcher found that $\mathrm{t}_{\text {count }}=0.94 \mathrm{with}$ opportunity $(1-\alpha)=1-5 \%=95 \%$ and dk $=n_{1}+n_{2}-2=31+33-2=62, \mathrm{t}_{\text {table }}=2.000$. So, $\mathrm{t}_{\text {count }}<\mathrm{t}_{\text {table }}\left(0.94<2.000\right.$ and $\mathrm{H}_{0}$ 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 22

## T-test ofthe Both Averages in Post-Test

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

$$
\begin{aligned}
& T t=\frac{M_{1}-M_{2}}{\sqrt{\left(\frac{\left(n_{1}-1\right) s_{1}^{2}+\left(n_{2}-1\right) s_{2}^{2}}{n_{1}+n_{2}-2}\right)\left(\frac{1}{n_{1}}+\frac{1}{n_{2}}\right)}} \\
& T t=\frac{88.80-73.42}{\sqrt{\left(\frac{(31-1) 57.79+(33-1) 104.68}{31+33-2}\right)\left(\frac{1}{31}+\frac{1}{33}\right)}} \\
& T t=\frac{14.36}{\sqrt{\left(\frac{3(57.79)+32(85.91)}{62}\right)(0.032+0.030)}} \\
& T t=\frac{14.36}{\sqrt{\left(\frac{1733.7+2749.12}{62}\right)(0.032+0.030)}} \\
& T t=\frac{14.36}{\sqrt{\left(\frac{4482.82}{62}\right)(0.062)}}
\end{aligned}
$$

$T t=\frac{14.36}{\sqrt{72.30(0.062)}}$
$T t=\frac{14.36}{\sqrt{4.48}}$
$T t=\frac{14.36}{2.11}$
$T t=6.805$
Based on researcher calculation result of homogeneity test of the both averages, researcher found that $\mathrm{t}_{\text {count }}=6.805$ with opportunity $(1-\alpha)=1-5 \%=95 \%$ and $\mathrm{dk}=\mathrm{n}_{1}+\mathrm{n}_{2}-2=31+33-2=62, \mathrm{t}_{\text {table }}=2.000$. So, $\mathrm{t}_{\text {count }}<\mathrm{t}_{\text {table }}\left(6.805<2.000\right.$ and $\mathrm{H}_{\mathrm{a}}$ 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.

Chi-Square Table

| $\mathbf{d k}$ | Significant level |  |  |  |  |  |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: |
|  | $\mathbf{5 0 \%}$ | $\mathbf{3 0 \%}$ | $\mathbf{2 0 \%}$ | $\mathbf{1 0 \%}$ | $\mathbf{5 \%}$ | $\mathbf{1 \%}$ |
| $\mathbf{1}$ | 0,455 | 1,074 | 1,642 | 2,706 | 3,841 | 6,635 |
| $\mathbf{2}$ | 1,386 | 2,408 | 3,219 | 4,605 | 5,991 | 9,210 |
| $\mathbf{3}$ | 2,366 | 3,665 | 4,642 | 6,251 | 7,815 | 11,341 |
| $\mathbf{4}$ | 3,357 | 4,878 | 5,989 | 7,779 | 9,488 | 13,277 |
| $\mathbf{5}$ | 4,351 | 6,064 | 7,289 | 9,236 | 11,070 | 15,086 |
| $\mathbf{6}$ | 5,348 | 7,231 | 8,558 | 10,645 | 12,592 | 16,812 |
| $\mathbf{7}$ | 6,346 | 8,383 | 9,803 | 12,017 | 14,067 | 18,475 |
| $\mathbf{8}$ | 7,344 | 9,524 | 11,030 | 13,362 | 15,507 | 20,090 |
| $\mathbf{9}$ | 8,343 | 10,656 | 12,242 | 14,684 | 16,919 | 21,666 |
| $\mathbf{1 0}$ | 9,342 | 11,781 | 13,442 | 15,987 | 18,307 | 23,209 |
| $\mathbf{1 1}$ | 10,341 | 12,899 | 14,631 | 17,275 | 19,675 | 24,725 |
| $\mathbf{1 2}$ | 11,340 | 14,011 | 15,812 | 18,549 | 21,026 | 26,217 |
| $\mathbf{1 3}$ | 12,340 | 15,119 | 16,985 | 19,812 | 22,362 | 27,688 |
| $\mathbf{1 4}$ | 13,339 | 16,222 | 18,151 | 21,064 | 23,685 | 29,141 |
| $\mathbf{1 5}$ | 14,339 | 17,222 | 19,311 | 22,307 | 24,996 | 30,578 |
| $\mathbf{1 6}$ | 15,338 | 18,418 | 20,465 | 23,542 | 26,296 | 32,000 |
| $\mathbf{1 7}$ | 16,338 | 19,511 | 21,615 | 24,769 | 27,587 | 33,409 |
| $\mathbf{1 8}$ | 17,338 | 20,601 | 22,760 | 25,989 | 28,869 | 34,805 |
| $\mathbf{1 9}$ | 18,338 | 21,689 | 23,900 | 27,204 | 30,144 | 36,191 |
| $\mathbf{2 0}$ | 19,337 | 22,775 | 25,038 | 28,412 | 31,410 | 37,566 |
| $\mathbf{2 1}$ | 20,337 | 23,858 | 26,171 | 29,615 | 32,671 | 38,932 |
| $\mathbf{2 2}$ | 21,337 | 24,939 | 27,301 | 30,813 | 33,924 | 40,289 |


| $\mathbf{2 3}$ | 22,337 | 26.018 | 28,429 | 32,007 | 35,172 | 41,638 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| $\mathbf{2 4}$ | 23,337 | 27,096 | 29,553 | 33,196 | 35,415 | 42,980 |
| $\mathbf{2 5}$ | 24,337 | 28,172 | 30,675 | 34,382 | 37,652 | 44,314 |
| $\mathbf{2 6}$ | 25,336 | 29,246 | 31,795 | 35,563 | 38,885 | 45,642 |
| $\mathbf{2 7}$ | 26,336 | 30,319 | 32,912 | 36,741 | 40,113 | 46,963 |
| $\mathbf{2 8}$ | 27,336 | 31,391 | 34,027 | 37,916 | 41,337 | 48,278 |
| $\mathbf{2 9}$ | 28,336 | 32,461 | 35,139 | 39,087 | 42,557 | 49,588 |
| $\mathbf{3 0}$ | 29,336 | 33,530 | 36,250 | 40,256 | 43,773 | 50,892 |

APPENDIX 24
Z-Table

| $\mathbf{Z}$ | $\mathbf{0 . 0 0}$ | $\mathbf{0 . 0 1}$ | $\mathbf{0 . 0 2}$ | $\mathbf{0 . 0 3}$ | $\mathbf{0 . 0 4}$ | $\mathbf{0 . 0 5}$ | $\mathbf{0 . 0 6}$ | $\mathbf{0 . 0 7}$ | $\mathbf{0 . 0 8}$ | $\mathbf{0 . 0 9}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $-\mathbf{3 . 9}$ | 0.00005 | 0.00005 | 0.00004 | 0.00004 | 0.00004 | 0.00004 | 0.00004 | 0.00004 | 0.00003 | 0.00003 |
| $\mathbf{- 3 . 8}$ | 0.00007 | 0.00007 | 0.00007 | 0.00006 | 0.00006 | 0.00006 | 0.00006 | 0.00005 | 0.00005 | 0.00005 |
| $-\mathbf{3 . 7}$ | 0.00011 | 0.00010 | 0.00010 | 0.00010 | 0.00009 | 0.00009 | 0.00008 | 0.00008 | 0.00008 | 0.00008 |


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


| $\mathbf{- 1 . 6}$ | 0.05480 | 0.05370 | 0.05262 | 0.05155 | 0.05050 | 0.04947 | 0.04846 | 0.04746 | 0.04648 | 0.04551 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| $\mathbf{- 1 . 5}$ | 0.06681 | 0.06552 | 0.06426 | 0.06301 | 0.06178 | 0.06057 | 0.05938 | 0.05821 | 0.05705 | 0.05592 |
| $\mathbf{- 1 . 4}$ | 0.08076 | 0.07927 | 0.07780 | 0.07636 | 0.07493 | 0.07353 | 0.07215 | 0.07078 | 0.06944 | 0.06811 |
| $\mathbf{- 1 . 3}$ | 0.09680 | 0.09510 | 0.09342 | 0.09176 | 0.09012 | 0.08851 | 0.08691 | 0.08534 | 0.08379 | 0.08226 |
| $\mathbf{- 1 . 2}$ | 0.11507 | 0.11314 | 0.11123 | 0.10935 | 0.10749 | 0.10565 | 0.10383 | 0.10204 | 0.10027 | 0.09853 |
| $\mathbf{- 1 . 1}$ | 0.13567 | 0.13350 | 0.13136 | 0.12924 | 0.12714 | 0.12507 | 0.12302 | 0.12100 | 0.11900 | 0.11702 |
| $\mathbf{- 1 . 0}$ | 0.15866 | 0.15625 | 0.15386 | 0.15151 | 0.14917 | 0.14686 | 0.14457 | 0.14231 | 0.14007 | 0.13786 |
| $\mathbf{- 0 . 9}$ | 0.18406 | 0.18141 | 0.17879 | 0.17619 | 0.17361 | 0.17106 | 0.16853 | 0.16602 | 0.16354 | 0.16109 |
| $\mathbf{- 0 . 8}$ | 0.21186 | 0.20897 | 0.20611 | 0.20327 | 0.20045 | 0.19766 | 0.19489 | 0.19215 | 0.18943 | 0.18673 |
| $\mathbf{- 0 . 7}$ | 0.24196 | 0.23885 | 0.23576 | 0.23270 | 0.22965 | 0.22663 | 0.22363 | 0.22065 | 0.21770 | 0.21476 |
| $\mathbf{- 0 . 6}$ | 0.27425 | 0.27093 | 0.26763 | 0.26435 | 0.26109 | 0.25785 | 0.25463 | 0.25143 | 0.24825 | 0.24510 |
| $\mathbf{- 0 . 5}$ | 0.30854 | 0.30503 | 0.30153 | 0.29806 | 0.29460 | 0.29116 | 0.28774 | 0.28434 | 0.28096 | 0.27760 |
| $\boldsymbol{- 0 . 4}$ | 0.34458 | 0.34090 | 0.33724 | 0.33360 | 0.32997 | 0.32636 | 0.32276 | 0.31918 | 0.31561 | 0.31207 |
| $\mathbf{- 0 . 3}$ | 0.38209 | 0.37828 | 0.37448 | 0.37070 | 0.36693 | 0.36317 | 0.35942 | 0.35569 | 0.35197 | 0.34827 |
| $\mathbf{- 0 . 2}$ | 0.42074 | 0.41683 | 0.41294 | 0.40905 | 0.40517 | 0.40129 | 0.39743 | 0.39358 | 0.38974 | 0.38591 |
| $\mathbf{- 0 . 1}$ | 0.46017 | 0.45620 | 0.45224 | 0.44828 | 0.44433 | 0.44038 | 0.43644 | 0.43251 | 0.42858 | 0.42465 |
| $\mathbf{- 0 . 0}$ | 0.50000 | 0.49601 | 0.49202 | 0.48803 | 0.48405 | 0.48006 | 0.47608 | 0.47210 | 0.46812 | 0.46414 |

Z-Table

| z | $\mathbf{0 . 0 0}$ | $\mathbf{0 . 0 1}$ | $\mathbf{0 . 0 2}$ | $\mathbf{0 . 0 3}$ | $\mathbf{0 . 0 4}$ | $\mathbf{0 . 0 5}$ | $\mathbf{0 . 0 6}$ | $\mathbf{0 . 0 7}$ | $\mathbf{0 . 0 8}$ | $\mathbf{0 . 0 9}$ |
| :--- | :--- | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $\mathbf{0 . 0}$ | 0.0000 | 0.0040 | 0.0080 | 0.0120 | 0.0160 | 0.0199 | 0.0239 | 0.0279 | 0.0319 | 0.0359 |
| $\mathbf{0 . 1}$ | 0.0398 | 0.0438 | 0.0478 | 0.0517 | 0.0557 | 0.0596 | 0.0636 | 0.0675 | 0.0714 | 0.0753 |
| $\mathbf{0 . 2}$ | 0.0793 | 0.0832 | 0.0871 | 0.0910 | 0.0948 | 0.0987 | 0.1026 | 0.1064 | 0.1103 | 0.1141 |
| $\mathbf{0 . 3}$ | 0.1179 | 0.1217 | 0.1255 | 0.1293 | 0.1331 | 0.1368 | 0.1406 | 0.1443 | 0.1480 | 0.1517 |
| $\mathbf{0 . 4}$ | 0.1554 | 0.1591 | 0.1628 | 0.1664 | 0.1700 | 0.1736 | 0.1772 | 0.1808 | 0.1844 | 0.1879 |
| $\mathbf{0 . 5}$ | 0.1915 | 0.1950 | 0.1985 | 0.2019 | 0.2054 | 0.2088 | 0.2123 | 0.2157 | 0.2190 | 0.2224 |
| $\mathbf{0 . 6}$ | 0.2257 | 0.2291 | 0.2324 | 0.2357 | 0.2389 | 0.2422 | 0.2454 | 0.2486 | 0.2517 | 0.2549 |
| $\mathbf{0 . 7}$ | 0.2580 | 0.2611 | 0.2642 | 0.2673 | 0.2704 | 0.2734 | 0.2764 | 0.2794 | 0.2823 | 0.2852 |
| $\mathbf{0 . 8}$ | 0.2881 | 0.2910 | 0.2939 | 0.2967 | 0.2995 | 0.3023 | 0.3051 | 0.3078 | 0.3106 | 0.3133 |
| $\mathbf{0 . 9}$ | 0.3159 | 0.3186 | 0.3212 | 0.3238 | 0.3264 | 0.3289 | 0.3315 | 0.3340 | 0.3365 | 0.3389 |
| $\mathbf{1 . 0}$ | 0.3413 | 0.3438 | 0.3461 | 0.3485 | 0.3508 | 0.3531 | 0.3554 | 0.3577 | 0.3599 | 0.3621 |
| $\mathbf{1 . 1}$ | 0.3643 | 0.3665 | 0.3686 | 0.3708 | 0.3729 | 0.3749 | 0.3770 | 0.3790 | 0.3810 | 0.3830 |
| $\mathbf{1 . 2}$ | 0.3849 | 0.3869 | 0.3888 | 0.3907 | 0.3925 | 0.3944 | 0.3962 | 0.3980 | 0.3997 | 0.4015 |
| $\mathbf{1 . 3}$ | 0.4032 | 0.4049 | 0.4066 | 0.4082 | 0.4099 | 0.4115 | 0.4131 | 0.4147 | 0.4162 | 0.4177 |
| $\mathbf{1 . 4}$ | 0.4192 | 0.4207 | 0.4222 | 0.4236 | 0.4251 | 0.4265 | 0.4279 | 0.4292 | 0.4306 | 0.4319 |


| $\mathbf{1 . 5}$ | 0.4332 | 0.4345 | 0.4357 | 0.4370 | 0.4382 | 0.4394 | 0.4406 | 0.4418 | 0.4429 | 0.4441 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| $\mathbf{1 . 6}$ | 0.4452 | 0.4463 | 0.4474 | 0.4484 | 0.4495 | 0.4505 | 0.4515 | 0.4525 | 0.4535 | 0.4545 |
| $\mathbf{1 . 7}$ | 0.4554 | 0.4564 | 0.4573 | 0.4582 | 0.4591 | 0.4599 | 0.4608 | 0.4616 | 0.4625 | 0.4633 |
| $\mathbf{1 . 8}$ | 0.4641 | 0.4649 | 0.4656 | 0.4664 | 0.4671 | 0.4678 | 0.4686 | 0.4693 | 0.4699 | 0.4706 |
| $\mathbf{1 . 9}$ | 0.4713 | 0.4719 | 0.4726 | 0.4732 | 0.4738 | 0.4744 | 0.4750 | 0.4756 | 0.4761 | 0.4767 |
| $\mathbf{2 . 0}$ | 0.4772 | 0.4778 | 0.4783 | 0.4788 | 0.4793 | 0.4798 | 0.4803 | 0.4808 | 0.4812 | 0.4817 |
| $\mathbf{2 . 1}$ | 0.4821 | 0.4826 | 0.4830 | 0.4834 | 0.4838 | 0.4842 | 0.4846 | 0.4850 | 0.4854 | 0.4857 |
| $\mathbf{2 . 2}$ | 0.4861 | 0.4864 | 0.4868 | 0.4871 | 0.4875 | 0.4878 | 0.4881 | 0.4884 | 0.4887 | 0.4890 |
| $\mathbf{2 . 3}$ | 0.4893 | 0.4896 | 0.4898 | 0.4901 | 0.4904 | 0.4906 | 0.4909 | 0.4911 | 0.4913 | 0.4916 |
| $\mathbf{2 . 4}$ | 0.4918 | 0.4920 | 0.4922 | 0.4925 | 0.4927 | 0.4929 | 0.4931 | 0.4932 | 0.4934 | 0.4936 |
| $\mathbf{2 . 5}$ | 0.4938 | 0.4940 | 0.4941 | 0.4943 | 0.4945 | 0.4946 | 0.4948 | 0.4949 | 0.4951 | 0.4952 |
| $\mathbf{2 . 6}$ | 0.4953 | 0.4955 | 0.4956 | 0.4957 | 0.4959 | 0.4960 | 0.4961 | 0.4962 | 0.4963 | 0.4964 |
| $\mathbf{2 . 7}$ | 0.4965 | 0.4966 | 0.4967 | 0.4968 | 0.4969 | 0.4970 | 0.4971 | 0.4972 | 0.4973 | 0.4974 |
| $\mathbf{2 . 8}$ | 0.4974 | 0.4975 | 0.4976 | 0.4977 | 0.4977 | 0.4978 | 0.4979 | 0.4979 | 0.4980 | 0.4981 |
| $\mathbf{2 . 9}$ | 0.4981 | 0.4982 | 0.4982 | 0.4983 | 0.4984 | 0.4984 | 0.4985 | 0.4985 | 0.4986 | 0.4986 |
| $\mathbf{3 . 0}$ | 0.4987 | 0.4987 | 0.4987 | 0.4988 | 0.4988 | 0.4989 | 0.4989 | 0.4989 | 0.4990 | 0.4990 |


| $\mathbf{3 , 1}$ | 0,4990 | 0,4991 | 0,4991 | 0,4991 | 0,4992 | 0,4992 | 0,4992 | 0,4992 | 0,4993 | 0,4993 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| $\mathbf{3 , 2}$ | 0,4993 | 0,4993 | 0,4994 | 0,4994 | 0,4994 | 0,4994 | 0,4994 | 0,4995 | 0,4995 | 0,4995 |
| $\mathbf{3 , 3}$ | 0,4995 | 0,4995 | 0,4995 | 0,4996 | 0,4996 | 0,4996 | 0,4996 | 0,4996 | 0,4997 | 0,4997 |
| $\mathbf{3 , 4}$ | 0,4997 | 0,4997 | 0,4997 | 0,4997 | 0,4997 | 0,4997 | 0,4997 | 0,4997 | 0,4997 | 0,4998 |
| $\mathbf{3 , 5}$ | 0,4998 | 0,4998 | 0,4998 | 0,4998 | 0,4998 | 0,4998 | 0,4998 | 0,4998 | 0,4998 | 0,4998 |
| $\mathbf{3 , 6}$ | 0,4998 | 0,4998 | 0,4999 | 0,4999 | 0,4999 | 0,4999 | 0,4999 | 0,4999 | 0,4999 | 0,4999 |
| $\mathbf{3 , 7}$ | 0,4999 | 0,4999 | 0,4999 | 0,4999 | 0,4999 | 0,4999 | 0,4999 | 0,4999 | 0,4999 | 0,4999 |
| $\mathbf{3 , 8}$ | 0,4999 | 0,4999 | 0,4999 | 0,4999 | 0,4999 | 0,4999 | 0,4999 | 0,4999 | 0,4999 | 0,4999 |
| $\mathbf{3 , 9}$ | 0,5000 | 0,5000 | 0,5000 | 0,5000 | 0,5000 | 0,5000 | 0,5000 | 0,5000 | 0,5000 | 0,5000 |





## SURAT KETERANGAN RISET <br> B - 52/MTs.09.02/pp.00.5/4/2019

Yang bertanda tangan di bawah ini

| Nama | $:$ H. Oloan Harahap,S.Pd |
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| NIP | $: 196807101997031003$ |
| Pangkat/Gol | $:$ Pembina (IV/a) |
| Jabatan | $:$ Kepala MTsN 4 Tapanuli Selatan |

Dengan ini menyatakan dengan sesungguhnya bahwa :

| Nama | $:$ Masriyanti |
| :--- | :--- |
| NIM | $: 133400092$ |
| Program Studi | $:$ Tarbiyah dan Ilmu Keguruan / TBI |
| Alamat | :Bange |

Adalah benar telah melaksanakan Riset di Madrasah Tsanawiyah Negeri 4 Tapanuli Selatan mul tanggal 23 Maret s/d 20 April 2019 sesuai dengan judul * The effect of using Retelling Strategy Students' Reading Comprehesion at VIII Grade of MTsN Batang Angkola Tapanuli Selatan *

Demikian Surat Keterangan Riset ini di buat dengan sebenarnya untuk, dapat dipergunakan seperlunya.


# KEMENTERIAN AGAMA REPUBLIK INDONESIA INSTITUT AGAMA ISLAM NEGERI PADANGSIDIMPUAN FAKULTAS TARBIYAH DAN ILMU KEGURUAN <br> Jalan T. Rizal Nurdin Km. 4.5 Sihitang 22733 Telepon (0834) 22080 Faximile (0634) 24022 

Nomor: B-332 /in.14/E/TL.00/03/2019
22 Maret 2019
Hal : Izin Penelitian
Penyelesalan Skripsi.

Yth. Kepala MTs N Batang Angkola Tapanuli Selatan Kabupaten Tapanuli Selatan

Dengan hormat, bersama ini kami sampaikan bahwa :

| Nama | : Masriyanti |
| :--- | :--- |
| NIM | $: 133400092$ |
| Program Studi | : Tadris/Pendidikan Bahasa Inggris |
| Fakultas | : Tarbiyah dan Ilmu Keguruan |
| Alamat | : Desa Bange |
| adalah Mahasiswa Fakultas Tarbiyah dan llmu Keguruan IAIN Padangsidimpuan yang |  |
| sedang menyelesaikan Skripsi dengan Judul "The Effect of Using Retelling Strategy on |  |
| Studens' Reading Comprehension at VIII Grade of MTs N Batang Angkola Tapanuli |  |
| Selatan". |  |

Sehubungan dengan itu, kami mohon bantuan Bapak/lbu untuk memberikan izin penelitian sesuai dengan maksud judul diatas.

Demikian disampaikan, atas kerja sama yang baik diucapka teriqhakasih.


## CURRICULUM VITAE

A. Identity
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Religion : Islam
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Mother's Name : Warti
C. Educational Background

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2. Junior High School : SMP Negeri 1Bukit Malintang ..... (2009)
3. Senior High School : SMK Negeri 1 Panyabungan ..... (2012)
4. Institute : IAIN Padangsidimpuan ..... (2019)

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