THE EFFECT OF PLAN (PREDICT, LOCATE, ADD AND NOTE) STRATEGY TO STUDENTS' READING COMPREHENSION AT THE GRADE X SMA N.3 PADANGSIDIMPUAN

A THESIS

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

Written By:

ULAN DAHARI
Reg. Number 15 203 00068

ENGLISH EDUCATION DEPARTMENT
TARBIYAH AND TEACHER TRAINING FACULTY
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PADANGSIDIMPUAN
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Item : 7 (seven) exemplars

Padangsidimpuan, Desember 2019
To:
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Assalamu'alaikum Wr.Wb.

After reading, studying and giving advice for necessary revision on thesis belongs to **Ulan Dahari**, entitled ***"The Effect Of PLAN (Predict, Locate, Add and Note) Strategy To Students' Reading Comprehension At The Grade X SMA N.3 Padangsidimpuan"***, we approved that the thesis has been acceptable to complete the requirement to fulfill for the degree of Graduate of Education (S.Pd.) in English.

Therefore, we hope that the thesis will soon be examined in front of the Thesis Examiner Team of E. Dept. of Tarbiyah and Teacher Training Faculty IAIN Padangsidimpuan. Thank you.

Wassalamu'alaikum Wr.Wb.

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Thesis	:	**The Effect Of PLAN (Predict, Locate, Add and Note) Strategy To Students' Reading Comprehension At The Grade X SMA N.3 Padangsidimpuan**
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The Thesis had been accepted as a partial fulfillment of the requirement for the degree of graduate of Education (S.Pd.) in English

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I realize this the thesis can't be considered perfect without critiques and suggestion. Therefore, it is such as a pleasure for me to get Critiques and suggestion to make this theses better.

Padangsidimpuan, November 2019

Research

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ABSTRACT

This research is intended to examine the effect of PLAN (Predict, Locate, Add and Note) Strategy to Students' Reading Comprehension at Grade X SMAN 3 Padangsidimpuan.

The research is experimental research with pre-test and post-test design. The population were all of the grade X students of SMAN 3 Padangsidimpuan. The sample were X MIA 5 as experimental class that consisted of 29 students and X IS 3 as control class that consisted of 29 students. The data were collected through pre-test and post-test in *multiple choice* form and analyzed by using t-test formula.

The finding showed that there was difference mean-score before and after using PLAN Strategy. Mean-score of experimental class before using PLAN strategy was 63.48 and mean-score after using PLAN was 88.65. Based on calculation of T-test, the researcher found that $t_{count} = 7.31$ and $t_{table} = 1.67591$. It means $t_{count} > t_{table}$ ($7.31>1.67591$) alternative hyphotesis (h_a) was accepted. So, there was significant effect of using PLAN (Predict, Locate, Add and Note) Strategy to Students' Reading Comprehension at Grade X SMAN 3 Padangsidimpuan.

***Key Words**:PLAN Strategy, Reading Comprehension.*

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CHAPTER I

INTRODUCTION

A. Background of the Problem

Reading is the process of cognition, interpretation and perception of a written or printed material. In the recent years, people know that English is an international language and it becomes interesting to be taught. English as a second language consists of four skills in language learning, they are reading, listening, speaking, and writing. In this research, the researcher will concern with reading skill because reading is one of the language skill that helps student to understand English subject. Gillet states that reading process is a sense making that create ideas, information and mental images from print and it brings comprehending.

Reading also can enhance cognitive abilities like knowing, comprehending, analyzing and evaluating. While reading, students can take the message from the text also get the main point of author's purpose and so on from the text.[1] Hence, reading can enhance students' academic performances.

Being successful in teaching English is the dominant factor that the English teacher should pay attention, especially in a teaching reading. In teaching reading process, teachers usually find student problems in reading process. Some of the students do not understand the contents of reading materials such as; finding out the topic, theme, main idea, and answer the

[1] Andrew P Jhonson, *Teaching Reading and Writing* (United States of America, 2008).

question that related with the text. There are many the important of reading. They are adding knowledge, improving understanding, getting imagination and creativity. These importances of reading will be explained in the following paragraphs.

First, through reading, people can add their knowledge. They know the knowledge not only about their subject but must be able to understand it. They know about the world if they are diligent in reading and they know about the information that exists in this world so that foreigners cannot fool.

Based on the explanation above also they know the general knowledge. They know the whole of world just through reading. They can hold the world through reading. Second, people can improve understanding. The more they read, the more they understand one thing. For example; students confuse about their task, if they read more, they will be more understanding about it. Third, reading can add the people imagination and creativity. By reading, people can feel enjoy and happy. They must able to understand what they read to imagine it. For example; students read a story, students, reading does not just see the text but must comprehend the idea from the text. Reading is comprehension. It is impossible, it people read the text but they don't understand the meaning of the text. They cannot take the idea from the text. Moreover, they don't know after they read it. Reading is very important, moreover for students. They must read for success their study. But, students of SMA N. 3 Padangsidimpuan have problem in reading. The first, they are lack vocabulary and seldom to practice in

reading. Then, reading activity is so bored and makes them stress because they can' understand the text. Next, the meaning of the word by word in the text is not appropriate with the whole of the sentence or paragraph. Students reading comprehension is low.[2] The teacher also never applies the technique in teaching reading comprehension. The problem above will be explained in the following paragraph.

In reading comprehension, the message to be imposed in the written form is the most important element that the students must recognize, because the primary purpose of reading to know the thoughts expressed in the printed material.[3] Therefore, reading comprehension is the way for the students to arrive at what they want to know from the reading material. However, the problem is how to make them comprehend. Anderson states that, a reader uses knowledge to comprehend texts, both bridging missing gap and elaborating the text meaning.

In the university level, reading is a skill that has to be learned. The university students have to read their compulsory books or other materials related to their lesson. Reading is a situation that complex process which gets the new knowledge involving not only the read the text but also their experience to comprehend it with effective strategies. Because of its crucial situation, many teachers of English at school especially in senior level find difficulties in all teaching reading and prefer teaching structure to read.

[2]Interview with Mr. Syaripuddin, *English Teacher* at Ten Grade SMA N. 3 Padangsidimpuan, 06 Maret 2019

[3] Hana Dessy Pratiwi, "The Effectiveness of Humor Stories to Improve Students' Reading Comprehension at Second Grade of Junior High School Muhammadiyah 01 Malang," 2016.

Many teachers do not know how to improve the students reading skill. Because the reading process cannot be directly and complex.

The problems of students reading comprehension at The Grade X SMA N.3 Padangsidimpuan are : First, the students' skill in reading comprehension is low. Reading skills are basic skills for students who are they must master so that they can participate in all activities in the process education and learning. The ability to understand reading will affect the absorption of students during learning. Students will also find it difficult to develop other skills that other skills that often can only be obtained by reading. Students who do not understand the contents of the reading tend to have difficulty achieving higher grades. Their reading skills must be able to understand what they are reading, so the problem is that students' reading skills are low because they cannot understand the contents of their reading.

Second, the students read word by word meanings in a reading that is not in accordance with the whole sentence or paragraph. Students read the meaning of words in dictionary. They mean reading a word by word reading. So, in understanding the whole reading does not match the word by word meaning.

Third, the students feel reading activity is so bored. In doing the activity students must enjoy the activity that makes them achieve to do the goal of activity. The problem is they can't enjoy the reading activity So, they can't understand the meaning of the text. Before reading, they have felt boring.

The last, the problem is not only come from the students but also come from the teacher. The teacher never applies the technique in teaching reading. Teacher can only instruct students to read the text, order translate text to Indonesian and answer the question based on the text. Whereas applying the strategy in teaching learning will make the learning is more active and effective. Like that in teaching reading. So, researchers try to solve the difficulties of students in understanding reading then make it so that they are not bored again in reading.

From the some problem above, researcher divided two kinds of its problem. They were general problem and specific problem. The general problem was the students feel the reading activity is so bored and then the specific was the students' skills reading comprehension is low.

Based on the above problems, there are many techniques that can be applied in teaching reading comprehension. One of the technique that can be applied is PLAN Strategy. PLAN strategy is a great strategy to help readers read informational texts actively and strategycally. PLAN strategy is a four step used to increase comprehension of argumentative texts such as nonfiction and text books. According to Barton, Lee and Deborah,[4] the application of Predict, Locate, Add Note strategy for Junior High School gives good effect to the students' reading comprehension. They were more enjoyable in learning reading and comprehend the text easily.The research also found that PLAN can give effect to students' reading comprehension,

[4] Mary Lee and L Deborah, *Eisenhower Program for Mathematics and Science Education*, 2001.

such as the research from Maria Ramasari and Cintia Novtarina[5] found that PLAN significantly effective to teach reading comprehension by using Predict, Locate, Add Note Strategy to the eighth grade students of SMP Negeri 2 Lubuklinggau in academic year of 2016/2017. Based on the above explanation, the researcher is interested to do a research of PLAN strategy to teach reading.

B. Identification of the Problem

Here, the researchers identifies the problem of the research like :

1. The students skill in reading comprehension is low.
2. The students read word by word meanings in a reading that is not in accordance with the whole sentence or paragraph.
3. The students feel the reading activity is so bored.
4. The teacher never applies the technique in teaching reading.

C. Limitation of the Problem

Based on the identification of problem above, the researchers limits the study on report text particularly for PLAN Strategy, trying to find the Effect of PLAN Strategy to Students Reading Comprehension.

D. Formulation of the Problem

Here, the researchers formulates of the problem like :

1. How is students' reading comprehension before learning using PLAN Strategy at The Grade X SMA N.3 Padangsidimpuan?

[5] maria Ramasari And Cintia Novtarina, "Teaching Reading Comprehension By Using Predict, Locate, Add Note Strategy To The Eighth Grade Students Of Smp Negeri 2 Lubuklinggau Maria" 5, no. 1 (n.d.): 95–102.

2. How is students' reading comprehension after learning using PLAN Strategy at The Grade X SMA N.3 Padangsidimpuan?
3. Is there significant effect of PLAN Strategy to Students' Reading Comprehension at The Grade X SMA N.3 Padangsidimpuan?

E. Purposes of the Research

The purpose of the research are:

1. To describe the students' reading comprehension before learning using PLAN Strategy at The Grade X SMA N.3 Padangsidimpuan.
2. To describe the students' reading comprehension after learning using PLAN Strategy at The Grade X SMA N.3 Padangsidimpuan.
3. To examine the significant effect of PLAN Strategy to students' reading comprehension at The Grade X SMA N.3 Padangsidimpuan.

F. The Significances of the Research

The significances o the research are :

1. Headmaster, to develop and encourage English Teachers to do the best in teaching English.
2. English Teacher, to overcome the problems in teaching and to add the reference in teaching and learning reading comprehension.
3. Students, to easy make them comprehend and understand the text.
4. Researchers, to do the related topic of the research.

G. Definition of Operational Variables

To avoid misunderstanding in this research, it is necessary to explain some terminologies relate to this thesis:

1. Reading Comprehension (Variable y)

   Reading comprehension is a complex process with comprises the successful or unsuccessful use of many abilities.

2. PLAN Strategy (Variable x)

   PLAN strategy which is an acronym for four distinct step that is Predict, locate, Add, and Note. PLAN strategy is strategy that conduct the students to make a mapping concept to identify an information from the text.

H. Outline of the Thesis

This research is organized into five chapters. Every chapter is subdivided into subtopics to elaborate the given issues. Chapter one consisted of introduction, they are: the background of the problem, the identification of problem, the limitation of the problem, the formulation of the problem, the objectives of the research, the significances of the research, the definitions of operational variables, and the outline of the thesis.

Chapter two consists of the theoretical description. It is divided into subchapters which consist of description of reading comprehension, PLAN technique, the related findings, the conceptual framework and the hypothesis.

Chapter three consists of methodology of the research which is divided into sub chapter; the place and time of the research, the research methodology, the population and sample, the research instrument, procedure of data collection, technique of analyzing data.

Chapter four consists of data description, hypothesis testing, discussion and the threats of the research.

Chapter five consists of the conclusion about the result of this research and suggestion that are given by the research.

CHAPTER II

THEORITICAL DESCRIPTION

A. Theoretical Description

1. PLAN Strategy

a. Defenition of PLAN

Plan is an acronym for four distinct steps that students are taught to use before, during, and after reading. According to Caverly et al Predict, Locate, Add, and Note (PLAN) is a study reading strategy used to increase comprehension for informational text that helps students read strategically.[1] The strategy students can use before, during, and after content area reading. This strategy incorporates met cognitive strategies to assis middle school through college level students in selecting the appropriate strategies for a particular task in comprehension.

According to Barton, Lee and Deborah, the application of Predict, Locate, Add Note strategy for Junior High School gives good effect to the students' reading comprehension.[2] PLAN give students an easy way in reading. They were more enjoyable in learning reading and comprehend the text easily.

---

[1] Vicki L Cohen and John Edwin Cowen, *Literacy For Children in An Information Age : Teaching Reading Writing and Thinking* (Canada: Thomson Wadsworth, 2008), https://books.google.com/books/about/literacy_for_children_in_aninformation.html?hl=id&id=Acw-o5v9w0EC.

[2] Maria Ramasari and Cintia Novtarina, "Teaching Reading Comprehension By Using Predict, Locate, Add Note Strategy To The Eighth Grade Students Of Smp Negeri 2 Lubuklinggau Maria" 5, no. 1 (n.d.): 95–102, http://ejournal.unp.ac.id/index.php/komposisi/article/download/8993/pdf.

The basic PLAN procedure is summarized by its title: Predict, Locate, Add,and Note:

> **Predict** : to get selection content based on prior knowledge and Experience
> **Locate** : to get Familiar and unfamiliar words or sentences.
> **Add** : to get new information to perior knowledge.
> **Note** : to get new information that can be applied to everyday tasks[3]

Based on explanation above PLAN (Predict, Locate, Add, and Note) is a strategy developed for textbook reading and the reader puts the main idea of the passage in their own words, and then help the students summarize in content of the reading selection.

b. Benefits of PLAN strategy

PLAN is a trategy that can activate students knowledge. Anderson & Pearson as cited in Lindy J seagrave stated that PLAN reading strategy was recognized as the engagement of appropriate schema, or prior knowledge.[4] Here, Students interact more with the text as they must create their prediction into a map. And then PLAN strategy engages students' background knowledge of the topic that simultaneously build their interest and motivation to read. So once prior knowledge was activated it could be modified and adjusted in order to increase the knowledge base.

Best et al as cited in Lindy J seagrave also expounded that the main advantage of activating of prior knowledge was that

[3] Ramasari and Novtarina.
[4] Lindy J. Seagrave, "Implementation of the PLAN Reading Strategy In a Secondary Science Classroom Lindy," 2006.

students gained access to related information and built upon it to make inferences and restructure misconceptions.[5] So it is hoped that PLAN reading strategy increased the mean grades in a middle school science classroom for students at all reading levels.

c. Procedure of PLAN Strategy

The implementation of PLAN strategy is to provide a lot of guidance, practice, and opportunities to work, so that the students can learn how to preview a reading and make a prediction, determine new information and known information in concept maps, add information or ideas to develop or expand in the map and reorganize detailed information on the map.

The procedure of PLAN strategy, as in Vicki L Cohen and John Edwin Cowen said in their book[6] as follow:

1) **Predict**

a) The students Select a reading passage with a well-defined central concept and distribute copies to students.

b) The students scan quickly the text (the title, headings and ilustration) and make predictions about its content from titles and key words

[5] Seagrave.

[6] Cohen and Cowen, *Literacy For Children in An Information Age : Teaching Reading Writing and Thinking.*

2) Locate

a) The students locate and check familiar and Unfamiliar information and/or by adding checkmarks next to what is known and question marks next to unfamiliar concepts.

b) The students activate and assess their prior knowledge about the topic of text.

3) Add

a) The students comprehend the content by adding words or short phrases to their map to explain concepts marked with question marks by confirming and extending known concepts marked with checks.

b) The students are able to evaluate their comprehension with the explanations what they have known.

4) Note

a) The students note their new understanding by using this new knowledge to fulfill a task. It can be done by using discussion or writing.

2. Definition of Reading Comprehension

a. What is Reading Comprehension

Reading is an active process that requires a great deal of practice and skill.[7] Reading comprehension is the ability to understand

[7] Judi Moreillon, *Collaborative Strategies for Teaching Reading Comprehension* (American Library Association, 2007), p.11.

information presented in written form. It is important for the students to become effective reader. Roebl states that "reading comprehension is an ability to understand what the readers read where words have context and texts have meaning".[8] The words or text that relate to the context, the reader interprets it firstly to get the factual interpretation or in reading. The readers' background knowledge also helps the reader to get the comprehension in reading.

Otto states that reading comprehension is a multiplication affected by various skills based on the statement. At comprehending text, reader has to find the main ideas that will determine the quality of their reading comprehension.[9] It means that reading comprehension is not only understand the text, but also the reader must reconstruct message what the writer grafts in the text. Furthermore, reading is one of important skills in learning language besides listening, writing and speaking.[10] The main goal of reading is comprehension

Next, reading comprehension is understanding, evaluating, and utilizing an ideas gained through and interaction between reader and author. Jeremy Harmer states that "reading comprehension is not stopping for every word, not analyzing everything that the reader or speaker includes in the text, it means the readers are able to take in a

[8] and St John K M Roebl, Connie Shiue, *K M Roebl, Connie Shiue, and St John, "Developing Reading Comprehension Skills in EFL University Level Students*, 2002, p.177.

[9] Surya Ningsih, "Improving the Students ' Ability in Reading of Narrative Text Trought Question Answer Relationship at The Tenth Grade of Man Binjai," 2017, p.9.

[10] David Nunan, *Practical English Language Teaching*, 1stEdition ed. (New York: McGraw Hill, 2003), p.68.

stream of discourse and understand the gist of it without worrying too much about the details.[11] It means reading comprehension is how to comprehend a written material that containing some information to find what the reader to know and also the information they need. So, students must have activity in comprehend not only text but also in context. Reading comprehension is a complex process for finding meaning from written material by adding text. In reading comprehension activities, the reader can obtain information, the main idea also concludes the meaning of the text. Reading and comprehension cannot separated, because readers need comprehension to get information from the text.

b. Purpose of Reading

There are some purposes of reading, they are :

1) Reading for details facts
2) Reading for main idea
3) Reading sequence or organization
4) Reading for inference
5) Reading for classify
6) Reading for evaluate
7) Reading for compare or contrast[12]

So, researcher concludes the purpose of reading are to get or find main idea, finding for inference and to evaluate reading. Understanding is useful for the ability to construct language to extract information from text.

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[11] Jeremy Harmer, *The Practice of English Language Teaching,* (Malaysia: Longman, 2003), p.202.

[12] Henry Guntur Tarigan, *Membaca Sebagai Suatu Kerampilan Berbahasa* (Bandung: Angkasa, 1980), P.8.

c. Kinds of Reading Comprehension

There are some kinds of reading, they are :

1) Aloud Reading

In reading aloud, the students will get experience in producing the sound, which should be practice as many as possible Reading aloud is divided in two kinds. They are unison is done with whole group It is done to check pronunciation, intonation, the student ability to read and helps teacher to find out who among his students has difficulty in reading.

2) Silent Reading

Silent reading is a process who done and be used by reader to get message from the text.[13] Silent is condition of not speaking and a soundtrack. It is means reading without voice and the move of lips. Reading is primarily a silent activity. The majority of reading that we will be done silently. In Western cultures oral reading was the primary practice until the nineteenth century. In about 1880 a debate began on the advantages of silent reading versus oral reading. Compiled a summary of the early studies on oral versus silent reading and came out strongly in favor of silent reading However, today many teachers still believe that oral reading is the best approach for teaching. Let me emphasize here that reading is primarily a silent activity. Classroom approaches to teaching

[13] H. Dougllas brown, *Language Asessment : Principles and Classroom Practices* (San Fransisco: Pearson Education Inc, 2004), p.58.

reading should emphasize the silent of this skill and avoid overemphasis on oral reading.[14]

Those three kinds of reading reader can use wether the readers want to read aloud or to read it silently.

d. Types of Reading Comprehension

Reading can be classified into four types based on the length, focus, and process.

1) Perceptive Reading

Perceptive reading is type of reading which involves attending to the components of strecthes of discourse: letters, words, punctuation, and other graphemic symbols.

2) Selective reading

Selective reading is largey part of assessment formats in which to ascertain one's reading recognition of lexical, grammatical of language within a very short stretch of language. This type of reading uses certain typical tasks: pictured-cued tasks, matching, true/false, multiple-choice, etc.

3) Interactive Reading

This type of reading forces the readers to interact with the text in which the readers should be able to bring a set of schemata to the text for understanding it. Typical reading genres that lend them selves to interactative reading are anecdotes, narratives, directions,

[14] Nunan, *Practical English Language Teaching*, p.69.

recipes, and other forms similar to those genres, the main focus in interactive reading task is to identify relevant features (lexical, symbolic, grammatical, and discourse) within text of moderately short length with the objective teoritation the information that is processed.

4) Extensive reading

This type of reading is when a reader reads texts of more than a page. For instance, professional articles, essays, technical report, short stories, and books. It should justified here that "extensive reading" refers to longer stretches of discourse, such as long articles and books that are usually read outside a classroom hour and it's focuses to tap into a learner's global understanding of a text, as opposed to asking test-takers to "zoom in" on small details.[15]

So, Perceptive reading is to read letters, words, punctuation, and other graphemic symbols. Selective reading is pictured-cued tasks, matching, true/false, multiple-choice, etc. Interactive reading by interacting with the text in which the readers should be able to bring a set of schemata and Extensive reading is when a reader reads texts of more than a page such as professional articles, essays, books and etc.

[15] H. Dougllas brown, *Language Asessment : Principles and Classroom Practices*.

e. Levels Reading Comprehension

According to Nuttal cited by Yahla there are four levels of comprehension, they are : conceptual meaning, contextual meaning, pragmatic meaning and propositional meaning. In the retelling process, the students practice all levels 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 of ideas and information. The next level is contextual or interpretative meaning. In this level, the students did to interpret the meaning of that information. The students can be understood from the context of the text. Then, the next level is pragmatic meaning. In this level, the students generate as a result of interaction the text. Lastly, the level is propositional meaning.[16] So, In this level the students think about the information and ideas in the text to their own opinion. relate it to their schemata, the students identify important information, interpret the meaning of that information, and then think about the information and ideas in the text to their own opinion and ideas.

3. Report Text

a. Defenition of Report Text

Report text is a kind of factual text. Report text is a text contain scientific information and knowledge improving, it is essential text to

[16] Umamatul Mahmuda and Habil Zare, "Improving The Students' Reaading Comprehension of Recount Text Through Retelling," no. December (2017): P.17.

increase readers' knowledge.[17] It means that report text is a text that tells readers about factual information of something or particular thing.

b. The Structural Element of Report Text

Text elements of report text are consist of title, general statement or general classification, and description.

1) The title is usually in phrase form, such as noun phrase. It indicates topic of report. It is about things in the world; living things like plants and animals, non-living things like galaxy, satellite, economy and so on.
2) General description or classification contains certain statement about topic belong to the title. It can be one sentence or more which explain a characteristic due to the topic. It means a statement to introduce the topic of report.
3) Description explains what has been shown in the title and the general statement. It means it provides details of topic such as physical appearance, behavior, landforms and uses.[18]

So, the reader can see each element above in every report text when they read it.

c. The Grammar Pattern of Report Text

Every text has its own characteristic of language. The grammar pattern commonly use in report text can be classified as follow:

[17] Pardiyono, *Pasti Bisa! Teaching Genre-Based Writing* (Yogyakarta: PENERBIT ANDI, 20017), P.271.

[18] *Hayati, p.* 275-276.

1) use present form
2) use declarative sentences
3) use conjunctions.[19]

The three grammar pattern above are commonly use in report text. It means there are another grammar pattern that can be used in report text.

d. The Example of Report Text

Title

Spiders

General Statement

Spiders are not insects, as many people think, nor even nearly related to them. One can tell the difference almost at a glance for a spider always has eight legs and an insect never more than six.

Description

How many spiders are engaged in this work on our behalf? One authority on spiders made a census of the spiders in a grass field in the south of England, and he estimated that there was more than 2,250,000 in one acre; that is something like 6,000,000 spiders of different kinds on a football pitch. Spiders are busy for at least half the year in killing insects.

[19]*Hayati*,p. 275.

Description	It is impossible to make more than the wildest guess at how many they kill, but they are hungry creatures which not content with only three meals a day. It has been estimated that the weight of all the insects destroy by spider in Britain in one year would be greater than the total weight of all the human beings in the country.

e. Teaching Reading Report Text by Using PLAN Strategy

PLAN Strategy in teaching reading report text to senior high school students. PLAN is a reading strategy that helps readers to read actively and strategically. In implementing this strategy, there are four main steps to be followed. First, the students predict the information they are going to find from the report text and transform the prediction into a concept map (Predict). Then, the students identify the information in the map by placing checkmark next to known or familiar information and question mark next to unknown information (Locate). After that, the students read the report text to correct the prediction (Add). Finally, the students complete relevant tasks to check their comprehension (Note).

f. Teaching Reading Report Text by Using Conventional Strategy

Teaching report text by using Conventional Strategy as the teacher ussually do is First, Teacher explain about the report text. Second, The teacher gives the text about report text. Then, The teacher

asks the students to read the text and asks to find the difficulty words. The students translate the difficulty words. After that, The Teacher asks the students to comprehend the meaning of the text. The last, The teacher evaluates what the students do and correct the answer that the students do. This strategy seems very boring and not effective rather than PLAN strategy.

d. The Review of Related Findings

There was some researcher that related to this research; the first Ramadanis.[20] She taught using PLAN reading strategy to her students and the result shown that there was significant effect with the mean score of pre-test in experimental class was 62,66, and the post-test was 78.66.

Second, the journal that had been done by Mike Amelia[21] found that the mean score of experimental class before applying PLAN strategy was 63.8 and the mean score of experimental class after applying REAP strategy was 71. Thus, there is an effect of using PLAN strategy toward the reading comprehension.

Third, by Maria Ramasari and CintIa Novtarina.[22] The result on their research shown that the mean score of pre-test of the experimental class was 62.3 and the mean of post-test was 77.3. It means there is significance effect of using PLAN strategy toward reading comprehension.

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[20] Ramasari and Novtarina, "Teaching Reading Comprehension By Using Predict, Locate, Add Note Strategy To The Eighth Grade Students Of Smp Negeri 2 Lubuklinggau Maria."

[21] Mike Amelia, "Using Plan (Predict, Locate, Add, Note) Strategy In Strategy In Teaching Reading Descriptive Text," 2018, https://doi.org/10.24036/komposisi.v19i1.8993.

[22] Ramasari and Novtarina, "Teaching Reading Comprehension By Using Predict, Locate, Add Note Strategy To The Eighth Grade Students Of Smp Negeri 2 Lubuklinggau Maria."

The last, Eka Sustri Harida[23] said that critical reading can be used in reading comprehension. Based on the result the mean score of post-test was 86.96 and the mean score of pre-test was 70.00. This suggested that there was significant improvement achieved by critical reading. It is the same with PLAN Strategy which needs a critical thinking also to assess students' reading comprehension.

From the previous findings above, the researcher using PLAN Strategy as a media in teaching because PLAN is one way to improve students' activity in reading media in teaching class. In conclusion, from the above description, researchers can conclude that PLAN can give effect to student's reading comprehension.

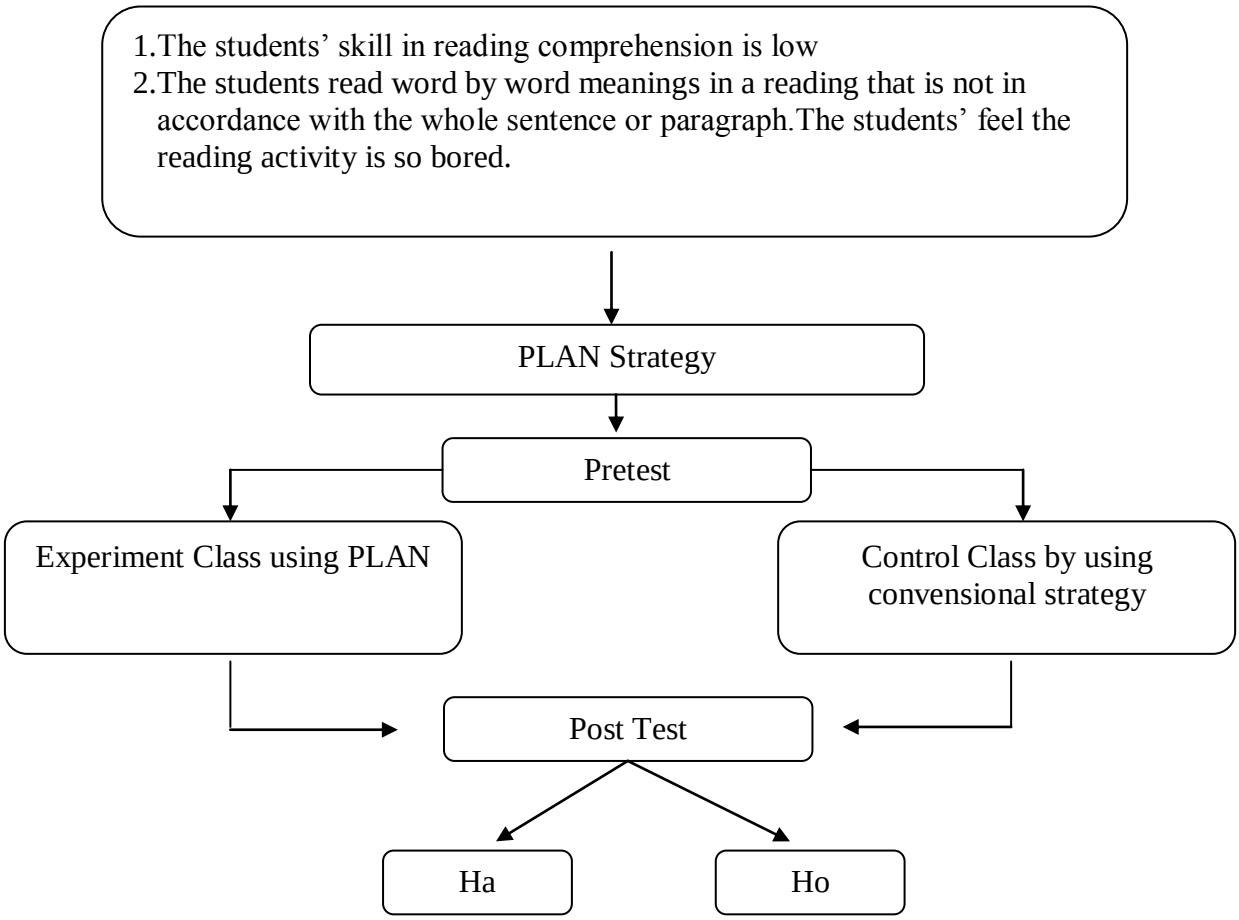
e. The Conceptual Framework

Reading is important skill for students. The successful of reading comprehension depend on many factors. One of them is how the teacher teaching reading to the students, Reading comprehension is mental process in which the readers try to understand the meaning in a text.

Therefore, teacher must use a strategy when in teaching reading to students, when the teacher know that the students is low in reading comprehension, where so that the strategy can increase the students ability in reading comprehension, the students become understand book that the students read. In teaching reading comprehension, teacher can apply PLAN. This strategy involved before, during and after reading activities.

[23] Eka Sustri Harida, "Using Critical Reading Strategies; One Way For Assesing Students ' Reading Comprehension," 2016, 199–206, http://ejournal.unp.ac.id/index.php/selt/article/download/6929/5463.

Figure 1: Conceptual Framework



k. Hypothesis

The hypothesis of this research will be:

Ha : There is significant Effect of PLAN Strategy to Students' Reading Comprehension at the Grade X SMA N.3 Padangsidimpuan.

Ho: There is not significant Effect of PLAN Strategy to Students' Reading Comprehension at the Grade X SMA N.3 Padangsidimpuan.

CHAPTER III

RESEARCH METHODOLOGY

A. Place and Time of Research

The location of the research is SMA N.3 Padangsidimpuan. It is located at Jl. Perintis Kemerdekaan No. 56 Padangmatinggi. Kode Pos: 22727. This subject of research was Grade X SMA N 3 Padangsidimpuan. It was done from January 2019 up to November 2019.

B. Research Design

In this research, the researcher used experiment research. Experiment is a research that has aim to know the effect between one or more variable, the researcher used two classes, as an experiment class and a control class. The experiment class was the class that taught with PLAN as a treatment and the control class was the class that taught with a treatment by conventional teaching. The researcher designed as the following :

Table 1
Table of design instrument

No	Group	Test	Treatment	Test
1.	Control Class	Pre-test	Teaching by using conventional strategy	Post-test
2.	Experimental Class	Pre-test	Teaching by using PLAN.	Post-test

In this research, research gave the pre-test before gave the treatment and gave the post-test after give the treatment to experimental class and control class. The researcher design as the following:

Table 2
Experimental and control class

No.	Class	Pre-test	Treatment	Post-test
1.	Experimental class	✓	✓	✓
2.	Control class	✓	×	✓

C. Population And Sample

1. Population

In this research, all of students of SMA N 3 Padangsidimpuan at the Grade X. Population of research was The Grade X students of SMA N.3 Padangsidimpuan. The total of at X grade could be considered as follow:

Table 3
The population of the Grade X Students

No.	Class	Number of Students
1.	X MIA^{1}	36
2.	X MIA^{2}	36
3.	X MIA^{3}	36
4.	X MIA^{4}	36
5.	**X MIA^{5}**	30
6.	X IS^{1}	36
7.	X IS^{2}	36
8.	**X IS^{3}**	30

2. Sample

Sample is the part of population that is chosen as respondent of the research. The researcher needed two of classes to act the research sample. They are experimental class and control class. So, the researcher took two classes as sample.

The researcher used a random sampling for taking sample of this research. The researcher used random sampling because the population in this research is 100 students and 100 is more than 100. So, the researcher just took two classes and the class is **MIA^5** and **IX^3.**

Based on the explanation above, the sample of this research could be seen in the table below:

Table 4
The sample of students SMA N.3 Padangsidimpuan

No	Class	Number
1	Experimental Class **XMIA^5**	29
2	Control Class **X IS^3**	29

Based on the table above, it could be seen that every class 29 students from MIA^5 and this class as a experimental class. Then, 29 students from IS ^{3} as a control class. So, the total sample of this research was 58 students.

To determine appropriate sample of population was tested with Normality and Homogeneity test.

1) Normality test

The researcher used normality test to know whether the data of research is normal or not. The data can be tested with Chi-quadrat:[1]

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

Fo = Frequency is gotten from the sample/result of observation (questioner)

F_h =Frequency is gotten from the sample as image from frequency is hoped from the population.

To calculate the result of Chi-Quadrate, it is used significant level 5% (0,05) and degree of freedom as big as total of frequency is lessened 3 (dk=k-3). If result x^2count <x^2table. So, it can be concluded that data is distributed normal.

2) Homogeneity Test

Homogeneity test was used to know whether control class and experimental class have the same variant or not. If the both of classes are same, it is can be called homogeneous. To test it, researcher used formula as follow:

$$F = \frac{The\ biggest\ variant}{The\ smallest\ variant}$$

Where:

n_1= Total of the data that bigger variant

n_2 = Total of the data that smaller variant.

[1] Mardalis, *Metode Penelitian: SuatuPendekatan Proposal* (Jakarta: Bumi Aksara, 2003).

D. The Research Instrument

The instrument for collecting data was test. The design of the reading test was in the form of multiple choice. The test was divided in two parts. First was pre-test consist of 20 number and the second was post-test consist of 20 number. The test gave to both groups. To find out the scores of the students' answer, the Researcher gave 5 score for each item. Thus, the maximum score of tests is 100.

Table 5
Indicator of Reading Comprehension Test (Pre-test)

NO	Indicators of Reading Assessment	Item	Number of Items	Score	Total Score
1	Able to identify the main idea of the text	6	2, 5, 7, 15, 17, 19	5	30
2	Able to identify specific information of the text	6	1, 9, 10, 13,16, 18	5	30
3	Able to identify detail information of the text	4	3, 4, 8, 11	5	20
4	Able to get the meaning of the text (word or sentence)	4	6, 12, 19, 20	5	20
Total		20		5	100

Table 6
Indicator of Reading Comprehension Test (Post-test)

NO	Indicators of Reading Assessment	Item	Number of Items	Score	Total Score
1	Able to identify the main idea of the text	5	1, 5, 8, 14, 20	5	25
2	Able to identify specific information of the text	7	4, 6, 7, 9, 12, 13, 17	5	35
3	Able to identify detail information of	4	2, 15, 18, 19	5	20

	the text				
4	Able to get the meaning of the text (word and sentence)	4	3, 10, 11, 16	5	20
Total		20		5	100

E. The Validity and Realibility Instrument

1. The Validity of The Test

Validity is the most important quality of a test. It is the degree to which a test measure what it is supposed to measure, and consequently, permits appropriated interpretations of test scores.[2]In this research, the researcher used item validity to get the validity of instrumentation. Item validity is a part of the test as a totality to measure the test by items. Then, the test consists of 60 multiple-choice tests that divided in to two groups. They were 30 for pre-test and 30 for post-test.

To know the validity of each question was be refer to list r biserial with r, in 5% significant: 0,349 and 1% significant: 0, 449. So, if $r_{count} > r_{table}$ the test is classified valid.

So, to get the validity of the test, the formula of r pointbiseral can be used as follow:

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

Where:

[2] L. R. Gay, *Educational Research: Competence for Analysis and Applications*, ed. Jeffery W. Johnston, 10th ed (Boston: Pearson Education, Inc, 2012), P.191.

r_{pbi} : Coefficient item validity.

M_p : mean score of the total score.

SD_t : Standard Deviation of the total score.

p : Presentation of the right answer of the item tested validity.

q : Presentation of the wrong answer of the item testevalidity.

From the result of the analysis for 60 instrument tests, in which 25 for pre-test and 25 for post-test. Researcher concluded that for pre-test only 25 were categorized valid and 5 were categorized invalid. Then, for the post-test also consist of 25 questions were categorized valid, and 5 were categorized in valid. So, researcher conducted 25 items for control class and 25 items for experiment class.

2. The Reliability of the Test

Reliability was the extent to which measuring device was consistent in measuring whatever it measures. It refers to the consistency of measurement that was to how consistent scores or other evaluation result were from one measurement to another. To get the reliability of the test, the Kuder Richardson 20 formula (KR01) was applied with r table 0.70.

Criteria of test reliability are as follow:[3]

r_{11} = 0.70	high correlation	(reliable)
r_{11}> 0.70	high correlation	(reliable)
r_{11}< 0.70	low correlation	(reliable)

[3] Anas Sudijono, *Pengantar Statistik Pendidikan* (Jakarta: Raja Grafindo Persada, 2008), P.209.

The formula:

$$R_{11} = \left(\frac{n}{n-1}\right)\left(\frac{S_{t^2} - \sum pq}{St_2}\right)$$

In which:

R : Reliability of the Instrument

n : Number of the Test

St^2 : Variants total

p : Proportion subject who is right answer (1)

N

q : Proportion subject who is wrong answer (0)

N

F. The Procedure of the Research

In completing the data, the next step of this researcher was collecting the data. The function of data collecting was to determine the result of the researcher. In collecting data the researcher used some steps. They are:

a. Pre-test

1) The researcher prepared the test 20 item.
2) The researcher distributed the paper of the to students of experimental class and control class.
3) The researcher explained what students to do.
4) Giving time.
5) The students answered the question.
6) Collected their paper test to researcher.

7) The researcher checked the answer of students and found he mean score of control and experimental class.

b. Treatment

After pre-test administrate, a treatment was given to students. Control group is thought Conventional Strategy, and experimental group is through by applying PLAN Strategy.

The procedure of PLAN strategy, as follow:

1. Predict

a) The students Selected a reading passage and prepared a reading map

b) The students scanned quickly the text and made predictions about its content from titles and key words.

2. Locate

a) The students located what they have known and unknown about information involving in the text on the map by placing checkmarks next to familiar concept and question marks next to unfamiliar concepts.

b) The students activated and assessed their prior knowledge about the topic of text.

3. Add

a) The students comprehended the content by adding words orshort phrases to their map.

4. Note

a) The students noted their new understanding by using this new knowledge to fulfill a task. It can be done by using discussion or writing.

b) The students reinforced their learning and ensure that they have fulfilled their purposes for reading.

The indicators of discussion strategy that is used by the teacher in class as following:

1) The teacher explained the report text.
2) The teacher gave the text about report text.
3) The teacher asked the students to read the text and asked to find the difficulty words. The students translated the difficulty words.
4) The teacher asksed he students to comprehended the meaning of the text.
5) The teacher evaluated what the students did and corrected the answer that the students did.

c. Post-test

After gave treatment, the researcher conducted a post test which the different test with pre-test, and has not been conducted in the previous of the research. This post test was the final test in the research, especially measuring the treatment, whether was an effect or not. After conducting the post-test, the researcher analyzed the data.

And the researcher found out the effect of story face strategy in the experiment class. The researcher has some procedure. They were:

1) The researcher prepared the test 20 item.
2) The researcher distributed the paper to student of experimental class and control class.
3) The researcher explained what students to do.
4) Giving time.
5) The students answered the question.
6) Collected their paper test to researcher.
7) The researcher checked the answer of students and found mean score of control and experimental class.

G. The Technique of Data Analysis

In experimental design, the technique in analyzing the data used by t-test, because was aimed to examine the difference of experimental class and control class. After experimental process, two of classes tested by using technique of data analysis as follow:

1. Requirement test

   a. Normality test

      In normality test, the data can be tested with Chi-quadrate:[4]

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

      Where :

[4]Mardalis, *MetodePenelitian: SuatuPendekatan Proposal*, (Jakarta: BumiAksara, 2003), p. 85.

x^2 = Chi Quadrat

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

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

To calculate the result of Chi- Quadrate, it was used significant level 5% (0,05) and degree of freedom as big as total of frequency is lessened 3 (dk=k-3). If result $r_{count} < r_{table}$.

b. Homogeneity test

Homogeneity test is used to find homogeneity of the variances of each class. If the both of classes are same, it is can be called homogeneous. To test it, researcher used formula as follow:[5]

$$F=\frac{The\ biggest\ variant}{The\ smallest\ variant}$$

Where:

n_1 = Total of the data that bigger variant

n_2 = Total of the data that smaller variant

Hypothesis is rejected if

$F \leq F\frac{1}{2}a\ (n_1 - 1)\ (1=n_2\text{-}1)$ While, if $F_{count} > F_{table}$

Hypothesis is accepted. It determined with significant level 5% (0,05) and dk numerator is (n_1- 1) while dk denominator is (n_2- 1).

[5]Mardalis, *Ibid.* p. 250.

2. Hyphotheses test

The data analysis of data was done to find out the achivement of the two groups, that have been divided in to experimental and control class. To know the difference between the classes, the researcher used t-test as formula bellow: [6]

$$Tt = \frac{M_{1-M_2}}{\sqrt{\left(\frac{\sum x_1{}^2 + x_2{}^2}{n_1+n_2-2}\right)\left(\frac{1}{n_1}+\frac{1}{n_2}\right)}}$$

Where :

T : The value which the stastistical significant

M1 : The average score of the experimental class

M2 : The average score of the control class

$X1^2$: Derivational of experimental class

$X2^2$: Derivational of control class

n_1 :Number of experimental

n_2 : Number of control class

[6] Suharsimi Arikuntu, *Manajemen Penelitian* (Jakarta: PT Rineka Cipta, 2013), p.275.

CHAPTER IV

DATA ANALYSIS

As mentioned in earlier chapter, in order to find out the effect of using Predict, Locate, Add and Note (PLAN) Strategy on students' reading comprehension, the researcher had 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. The Description of Data

1. The Description of Data before Using Strategy Predict, Locate, Add and Note (PLAN)

a. Score of Pre-test Experimental Class

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

Table 7
The Score of Experimental Class in Pre-test

Total	1710
Highest score	85
Lowest score	30
Mean	63.48
Median	67.75
Modus	62.89
Range	55
Interval	9
Standard deviation	15.84
Variants	252,46

Based on the above table the total score of experimental class in pre-test was 1710, mean was 63.48, standard deviation was 15.84, variants was 252,46, median was 67.75, range was 55, modus was 62.89, interval was 9. The researcher got the highest score was 85 and the lowest score was 30. It can be seen on appendix 21.

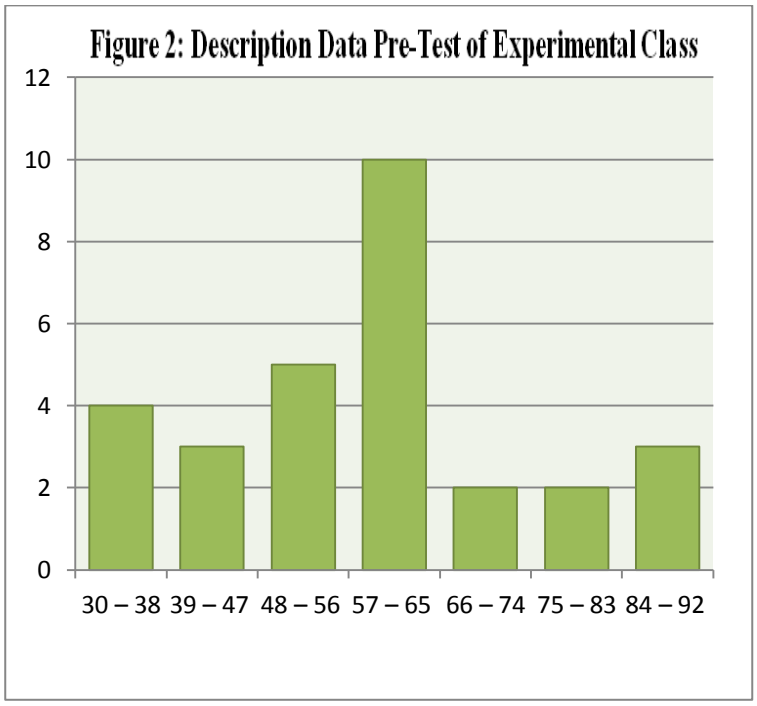
Then, the computed of the frequency distribution of the students' score of experiment class could be applied into table frequency distribution as follow:

Table 8
Frequency Distribution of Students' Score

No	Interval	Frequency	Percentages
1	30 – 38	4	13.79%
2	39 – 47	3	10.34%
3	48 – 56	5	17.24%
4	57 – 65	10	38.40%
5	66 – 74	2	6.89%
6	75 – 83	2	6.89%
7	84 – 92	3	10.34%
$i = 9$		29	100%

From the table above, the students' score in class interval between 30 – 38 was 4 students (13.79%) class interval between 39 – 47 was 3 students (10.34%), class interval between 48 – 56 was 5 students (17.24%), class interval between 57 – 65 was 10 students (38.40%), class interval between 66 – 74 was 2 student (6.89%), class interval between 75 – 83 was 2 students (6.89%) and the last class interval between 84 – 92 was 3 student (10.34%).

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



From the histogram of students' score of experimental class in pre test shown that the lowest interval 30 – 38 was 4 students and highest interval 84 – 92 was 3 students. Histogram also shown that the highest frequency in interval 57 – 65 was 10 students.

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 9
The Score of Control Class in Pre-test

Total	1735
Highest score	85
Lowest score	30
Mean	63.5
Median	64.78
Modus	51.1
Range	55
Interval	9
Standard deviation	13.14
Variants	190.14

Based on the above table the total score of control class in pre-test was 1735, mean was 63.5, standard deviation was 13.14, variants was190.14, median was 64.78, range was 55, modus was 51.1, interval was 9. The researcher got the highest score was 85 and the lowest score was 30. It can be seen on appendix 21.

Then, the computed of the frequency distribution of the students' score of experiment class could be applied into table frequency distribution as follow:

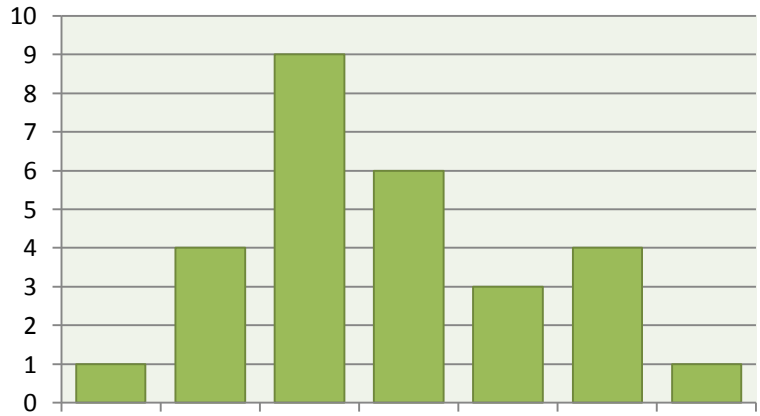
Table 10
Frequency Distribution of Students' Score

No	Interval	Frequency	Percentages
1	30 – 38	1	3.84%
2	39 – 47	4	13.79%
3	48 – 56	9	31.03%
4	57 – 65	6	20.68%
5	66 – 74	3	10.34%
6	75 – 83	4	13.79%
7	84 – 92	1	3.84%
$i = 9$		29	100%

From the table above, the students' score in class interval between 30 – 38 was 1 students (3.84%), class interval between 39 – 47 was 4 students (13.79%%), class interval between 48 – 56 was 9 students (31.03%), class interval between 57 – 65 was 6 students (20.68%), class interval between 66 – 74was 3 student (10.34%), class interval between 75 – 83 was 4 students (13.79%) and the last class interval between 84 – 92 was 1 student (3.84%).

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

Figure 3: Description Data Pre-Test of Control Class



From the histogram of students' score of control class in pre test shown that the lowest interval 30 – 38 was 1 student and highest interval 84 - 92 was only 1 student. Histogram also shown that the highest frequency in interval 48 - 56 was 9 students.

2. The Description of Data After Using Using Strategy Predict, Locate, Add and Note (PLAN) Strategy

a. Score of Post-Test Experimental Class

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

Table 11
The Score of Experimental Class in Post-test

Total	2260
Highest score	90
Lowest score	65
Mean	88.65
Median	85.4
Modus	81.75
Range	30
Interval	5
Standard deviation	10.9
Variants	65.20

Based on the above table the total score of experiment class in post-test was 2260, mean was 88.65 standard deviation was 10.9, variants was 65.20, median was 85.4, range was 30, modus was 81.75, interval was 5. The researcher got the highest score was 90 and the lowest score was 65. It can be seen on appendix 22.

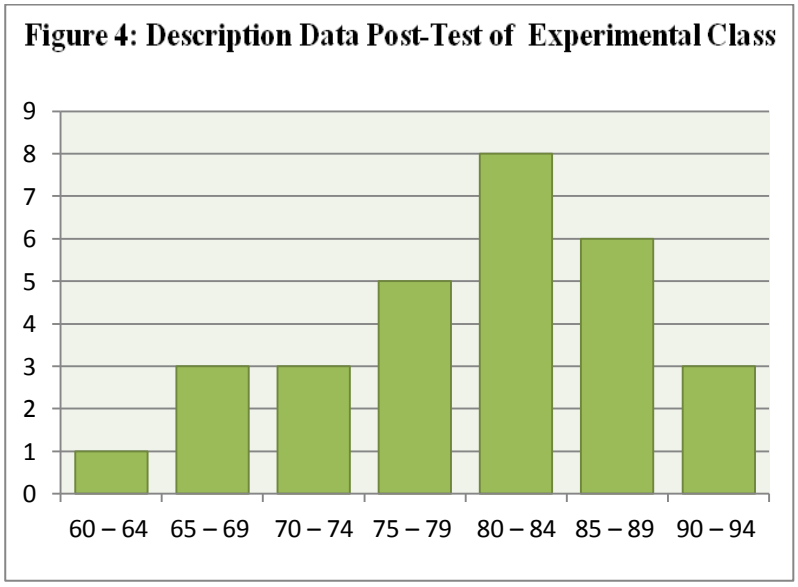
Then, the computed of the frequency distribution of the students' score of experiment class can be applied into table frequency distribution as follow:

Table 12
Frequency Distribution of Students' Score

No	Interval	Frequency	Percentages
1	60 – 64	1	3.84%
2	65 – 69	3	10.34%
3	70 – 74	3	10.34%
4	75 – 79	5	17.24%
5	80 – 84	**8**	27.58%
6	85 – 89	6	20.68%
7	90 – 94	3	10.34%
i = 5		29	100%

From the table above, the students' score in class interval between 60 – 64 was 1 student (3.84%%), class interval between 65 – 69 was 3 students (10.34%), class interval between 70 – 74 was 3 students (10.34%), class interval between 75 – 79 was 5 students (17.24%), class interval between 80 – 84 was 8 students (27.58%), class interval between 85 – 89 was 6 students (20.68%), and the last class interval between 90 – 94 was 3 students (10.34%).

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



From the histogram of students' score of experimental class in post test shown that the lowest interval 60 – 64 was 1 student and highest interval 90 – 94 was 3 students. Histogram also shown that the highest frequency in interval 80 – 84 was 8 students.

b. Score of Post-Test Control Class

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 comprehension by using Discussion Strategy. The score of post-test control class can be seen in the following table:

Table 13
The Score of Control class in Post-test

Total	2205
Highest score	90
Lowest score	55
Mean	83.09
Median	82.7
Modus	80.48

Range	35
Interval	6
Standard deviation	9.06
Variants	81.03

Based on the above table the total score of control class in post-test was 2205, mean was 83.09 standard deviation was 9.06, variants was 81.03, median was 82.7, range was 35, modus was 80.48, interval was 6. The researcher got the highest score was 90 and the lowest score was 55. It can be seen on appendix 22.

Then, the computed of the frequency distribution of the students' score of control class can be applied into table frequency distribution as follow:

Table 14
Frequency Distribution of Students' Score

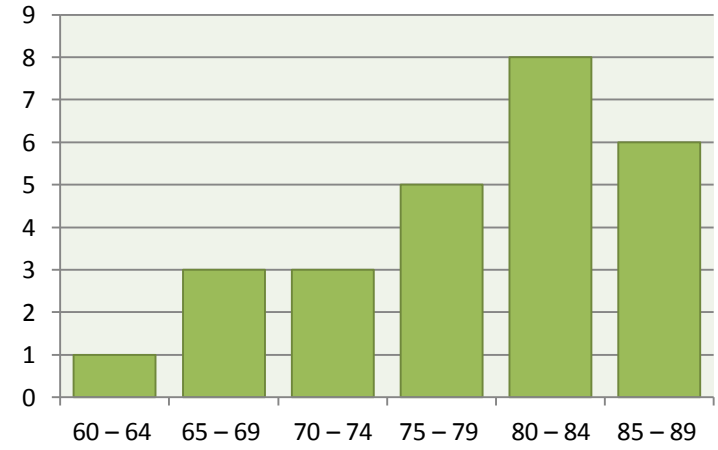
No	Interval	Frequency	Percentages
1	55 – 60	3	10.34%
2	61 – 66	4	13.79%
3	67 – 72	1	3.84%
4	73 – 78	3	10.34%
5	79 – 84	**12**	41.37%
6	85 – 90	6	20.68%
i = 6		29	100%

From the table above, the students' score in class interval between 55 – 60 was 3 students (10.34%), class interval between 61 – 66 was 4 students (13.79%), class interval between 67 – 72 was 1 student (3.84%), class interval between 73 – 78 was 3 students

(10.34%), class interval between 79 – 84 was 12 students (41.37%), interval between 85 – 90 was 6 students (20.68).

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

Figure 5: Description Data Post-Test of Control Class



From the histogram of students' score of control class in post test shown that the lowest interval 55 – 60 was 3 student and highest interval 85 – 90 was 6 students. Histogram also shown that the highest frequency in interval 79 – 84 was 12 students.

3. Description of Comparison Score of Pre-Test and Post-Test

a. Comparison Score of Pre-Test and Post-Test in Experimental Class

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

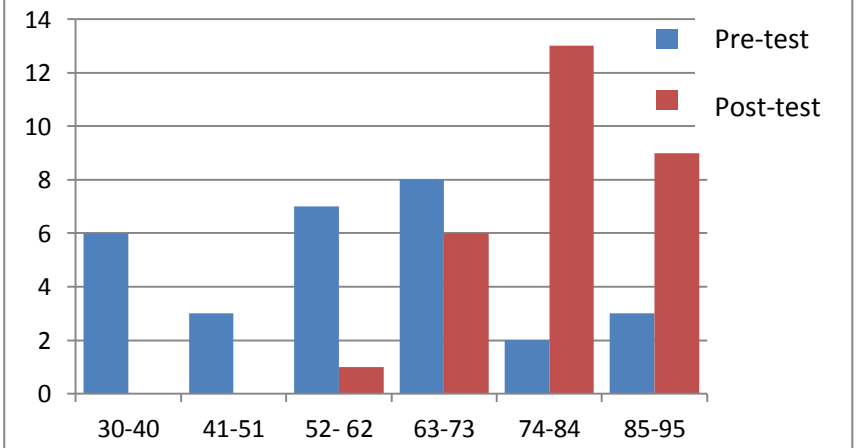
Table 15
The Comparison Data of Experimental Class in Pre-test and Post-Test

Description	Pre-Test	Post-Test
Total	1710	2260
Highest score	85	90
Lowest score	30	65
Mean	63.48	88.65
Median	67.75	85.4
Modus	62.89	81.75
Range	55	30
Interval	9	5
Standard deviation	15.84	10.9
Variants	252,46	65.20

Based on students' answers in experimental of pre-test and post-test, the researcher has calculated the students' score and most of students both of classes were low in reading. Experimental class consisted of 29 students (MIA 5). The lowest score in pre-test was 30 whereas the highest score was 85 and the lowest score in post-test was 65 whereas the highest score was 90.

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 histogram :

Figure 6: Comparison between Pre-test and Post-test in Experimental Class



From the histogram above, Pre-test frequency of students' score from 30 up to 40 was 6; 41 up to 51 was 3; 52 up to 62 was 7; and 63 up to 73 was 8 students; 74-84 was 2 students; 85-95 was 3 students. In post-test, the frequency of students' score from 52 up to 62 was 1; 63 up to 73 was 6; and 74 up to 84 was 13 students; 85-95 was 9 students. The histogram shows that the highest interval (85– 95) was 9 students and the lowest interval (30 – 40) was 6 students. So the students' scores of experimental class in post-test was higher than pre test.

b. Comparison Score of Pre-test and Post Test in Control Class

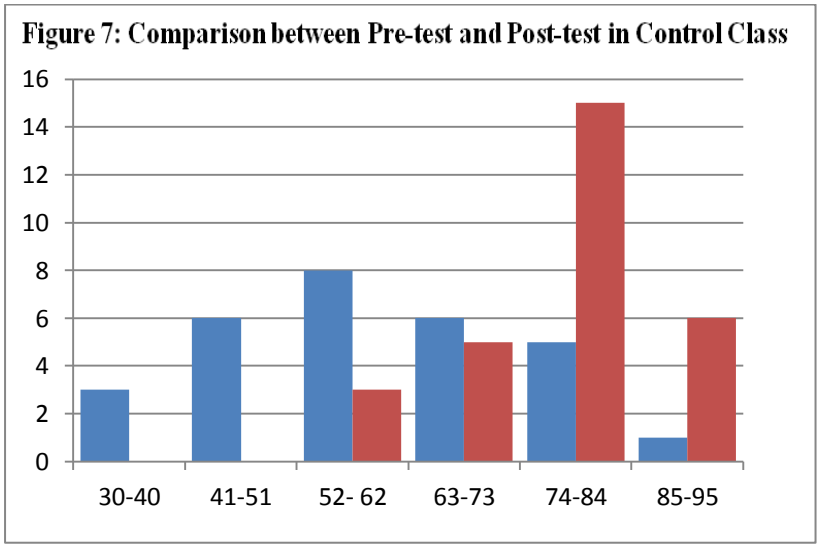
The comparison score between pre-test and post-test of experimental class can bee seen in the following table:

Table 16
The Comparison Data of Control Class
in Pre-test and Post-Test

Description	Pre-Test	Post-Test
Total	1735	2205
Highest score	85	90
Lowest score	30	55
Mean	63.5	83.09
Median	64.78	82.7
Modus	51.1	80.48
Range	55	35
Interval	9	6
Standard deviation	13.14	9.06
Variants	190.14	81.03

Based on students' answers in control class of pre-test and post-test has calculated the students' score and most of students both of classes were low in reading. Control class consisted of 29 students (IX3). The lowest score in pre-test was 30 whereas the highest score was 85 and the lowest score in post-test was 55 whereas the highest score was 90.

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

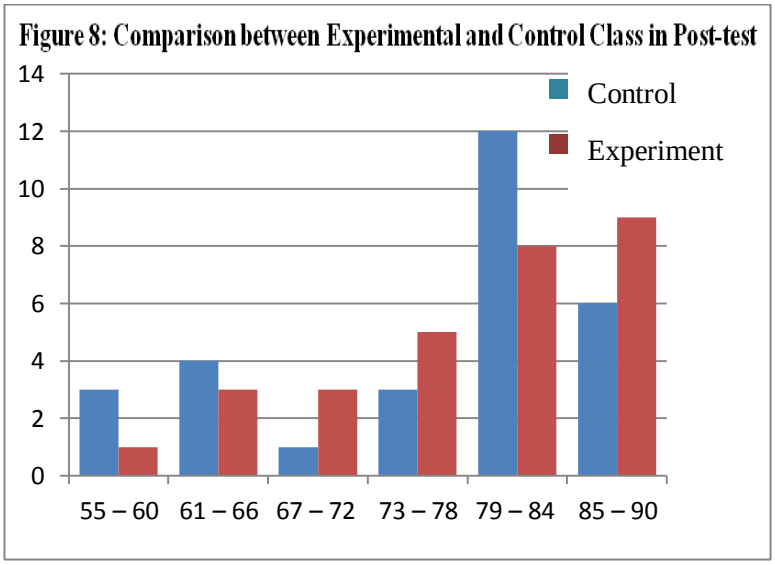


From the histogram above, Post-test frequency of students' score from 52 up to 62 was 3; 63 up to 73 was 5; 74 up to 84 was 15; and 85 up to 95 was 6 students.

c. Comparison between Experimental and Control Class in Post-Test

Based on students' answers in post-test in experimental and control class, the researcher has calculated the students' score and most of students both of classes increased. Experimental class consisted of 29 students (X MIA 5), the lowest score was 60 whereas the highest score was 90. Then, most of students got raising score and their score increased very significant. Control class consisted of 29 students (X IS 3), the lowest score was 55 whereas the highest score was 90. Studens' score increased too but not significant.

In order to get easier description of data, the researcher presented them in histogram. It can be seen on following histogram:



From histogram above, in experimental class, the frequency of students' score from 55 up to 60 was 1; 61 up to 66 was 3; 67 up to 72 was 3 and 73 up to 78 was 5 students; 79 – 84 was 8 students; 85 up to 90 was 9 students. In control class, the frequency of students' score from 55 up to 60 was 3; 61 up to 66 was 4 and 67 up to 72 was 3; 73 up to 78 was 3; 79 up to 84 was 12 and 85 up to 90 was 6 students.

B. Technique of Data Analysis

1. Requirement Test

a. Normality and Homogeneity Pre-Test

1) Normality of Experimental Class and Control Class in Pre-Test

Table 17
Normality and Homogeneity in Pre-Test

Class	Normality Test		Homogeneity Test	
	x_{count}	x_{table}	f_{count}	f_{table}
Experiment Class	-6.04	11.070	1.32< 2,62	
Control Class	-2.11	11.070		

Based on the above table researcher calculation, the score of experimental class Lo = -6.04 < Lt = 11.070 with n = 29 and control class Lo = -2.11 < Lt = 11.070 with n = 29, and real level α 0.05. Cause Lo< Lt in the both class. So, H_a was accepted. It means that experimental class and control class were distributed normal. It can be seen in appendix 21.

2) Homogeneity of Experimental Class and Controll class in Pre-Test

The coefficient of F_{count} = 1.32 was compared with F_{table}. Where F_{table} was determined at real α 0.05, and the different numerator dk = n-1 = 29-1 = 28 and denominator dk n-1 = 29–1 = 28. So, by using the list of critical value at F distribution is got $F_{0.05}$ = 2.62. It showed that F_{count} 1.32< F_{table} 2.62. So, the researcher concluded that the variant from the data of the Students' Reading comprehension at SMAN.3 Padangsidimpuan by experimental class and control class was homogenous. The calculation can be seen on the appendix 19.

b. Normality and Homogeneity Post-Test

1) Normality of Experimental Class and Control class in Post-Test

Table 18
Normality and Homogeneity in Post-Test

Class	Normality Test		Homogeneity Test	
	x_{count}	x_{table}	f_{count}	f_{table}
ExperimentalClass	6.02	11.070	1.24< 2.62	
Control Class	10.8	11.070		

Based on the table above researcher calculation, the score of experiment class Lo = 6.02 < Lt = 11.070 with n = 29 and control class Lo = 10.8< Lt = 11.070 with n = 29, and real level α 0.05. Cause Lo< Lt in the both class. So, H_a was accepted. It means that experimental class and Control class were distributed normal. It can be seen in appendix 22.

2) Homogeneity of Experimental Class and Control class in Post-test

The coefficient of F_{count} = 1.24 was compared with F_{table}. Where F_{table} was determined at real α 0.05, and the different numerator dk = n-1 = 29-1 = 28 and denominator dk n-1 = 29-1 = 28. So, by using the list of critical value at F distribution is got $F_{0.05}$= 2.62. It showed that F_{count} 1.24< F_{table} 2.62. So, the researcher concluded that the variant from the data of the Students' Reading comprehension at SMAN.3 Padangsidimpuan by experimental

class and Control class was homogenous. The calculation can be seen on the appendix 20.

2. Hypothesis Test

After calculating the data of post-test, researcher found that post-test result of experimental class 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 (H_a) of the research was "There is significant effect of PLAN Strategy to Students' Reading Comprehension at SMAN.3 Padangsidimpuan". Hyphotesis null (Ho) of the research was "There is no significant effect of PLAN Strategy to Students' Reading Comprehension on SMAN.3 Padangsidimpuan". Ha is accepted if t_{count} is higher than t_{table}. In this case, the researcher found that $t_{count} > t_{table}$ which means that there was significant effect of PLAN Strategy to Students' Reading Comprehension at Grade XI SMAN.3 Padangsidimpuan. The calculation can be seen on the appendix 24.

Table 19
Result of T-test from the Both Averages

Pre-test		**Post-test**	
t_{count}	t_{table}	t_{count}	t_{table}
0.03	1.67591	7.31	1.67591

$H_a : \mu_1 > \mu_2$

Where:

$H_a : \mu_1 > \mu_2$ "There was significant effect of PLAN Strategy to Students' Reading Comprehension at Grade X SMAN.3 Padangsidimpuan".

Based on researcher calculation, researcher found that t_{count} 0.03 while t_{table} 1.67591with opportunity $(1 - \alpha) = 1 - 5\% = 95\%$ and dk = $n_1 + n_2 - 2 = 29 + 29 - 2 = 56$. Cause $t_{count} > t_{table}$ (7.31>1.67591), it means that hypothesis H_a was accepted and H_0 was rejected. So, there was significant effect of PLAN Strategy to Students' Reading Comprehension at SMAN.3 Padangsidimpuan.

C. Discussion

Based on related findings, the researcher discussed the result of this research and compared with other research result. The related findings were the description about the effectiveness of using PLAN Strategy to Students' Reading Comprehension at Grade X SMAN.3 Padangsidimpuan. The researcher discussed the result of this research and compared with the related findings. From the review of related findings, the researcher also found the similar result as the previous research.

First, A research by Ramadanis.[1] She taught using PLAN reading strategy to her students and the result shown that there was significant effect with the mean score of pre-test in experimental class was 62,66, and the post-test was 78.66.

Second, the journal that had been done by Mike Amelia[2] found that the mean score of experimental class before applying PLAN strategy was 63.8 and the mean score of experimental class after applying REAP

[1] Ramasari and Novtarina, "Teaching Reading Comprehension By Using Predict, Locate, Add Note Strategy To The Eighth Grade Students Of Smp Negeri 2 Lubuklinggau Maria."

[2] amelia, "Using Plan (Predict, Locate, Add, Note) Strategy In Strategy In Teaching Reading Descriptive Text."

strategy was 71. Thus, there is an effect of using PLAN strategy toward the reading comprehension.

Third, by Maria Ramasari and CintIa Novtarina.[3] The result on their research shown that the mean score of pre-test of the experimental class was 62.3 and the mean of post-test was 77.3. It means there is significance effect of using PLAN strategy toward reading comprehension.

Beside it, the researcher also found that PLAN Strategy to Students' Reading Comprehension at Grade X SMAN.3 Padangsidimpuan. The researcher found that t_0 is higher than t_t where t_0 was 7.31 and t_t was 1.67591 (7.31>1.67591).It can be seen that among the researches, the using of PLAN Strategy gave the effect to students' reading comprehension especially at grade X SMA Negeri 3 Padangsidimpuan where it is suitable with the theory from Barton, Lee and Deborah,[4] the application of Predict, Locate, Add Note strategy for Junior High School gives good effect to the students' reading comprehension. It means the theory has been proved where the students able to understand the text easily. Beside that, PLAN strategy engages students' background knowledge of the topic that simultaneously build their interest and motivation to read. This proofs how that PLAN is suitable to be applied in teaching report text because it has been proven by the previous researches and the theory. So, PLAN has given the significant effect to the research that has been done by the researcher.

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[3] Ramasari and Novtarina, "Teaching Reading Comprehension By Using Predict, Locate, Add Note Strategy To The Eighth Grade Students Of SMP Negeri 2 Lubuklinggau Maria."

[4] Mary Lee and L Deborah, *Eisenhower Program for Mathematics and Science Education*, 2001.

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 were 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.
3. The students were too enthusiastic in discussing the text. It made them be not followed the rule of treatment when the teacher gives other text, the students feel confused to understand the text.

CHAPTER V

THE CONCLUSION AND SUGGESTION

A. Conclusion

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

1. Before using PLAN Strategy students' reading comprehension was still low.
2. After using PLAN Strategy, researcher got the students' reading comprehension was higher. Mean score of experimental class before using PLAN was 63.48 and mean score after using PLAN was 88.65.
3. Based on the calculation of t_{count} was 7.31 was higher than t_{table} was 1.67591. It can be concluded that there was the significant effect of PLAN Strategy to Students' Reading Comprehension at Grade X SMAN.3 Padangsidimpuan.

B. Suggestion

The researcher got many informations in English teaching and learning after finishing this research. From this research, researcher saw some things need to be improved. It makes the researcher give some suggestions, as follow:

1. For the English teacher, it is hoped to use PLAN Strategy in teaching report text. This research and others proved that PLAN was effective to be applied in classroom. Because that approach makes students given abundant opportunity to interact as learners work to complete a task.
2. For the students, it is hoped to use PLAN, because it can make them to be able to communicate or communicative competence.

3. For the next researcher, this research can help the other researcher who will conduct further research in the same topic. The other researcher can get the information from this experimental research, even do a comparison between this research and another with the similar variable.

REFERENCE

Amelia, Mike. "Using Plan (Predict, Locate, Add, Note) Strategy In Strategy In Teaching Reading Descriptive Text," 2018. https://doi.org/10.24036/komposisi.v19i1.8993.

Arikuntu, Suharsimi. Manajemen Penelitian. Jakarta: PT Rineka Cipta, 2013.

Cohen, vicki L, and John Edwin Cowen. *Literacy For Children in An Information Age : Teaching Reading Writing and Thinking*. Canada: Thomson Wadsworth, 2008. https://books.google.com/books/about/literacy_for_children_in_aninformation.html?hl=id&id=Acw-o5v9w0EC.

H. Dougllas brown. Language Asessment : Principles and Classroom Practices. San Fransisco: Pearson Education Inc, 2004.

Hana Dessy Pratiwi. "The Effectiveness of Humor Stories to Improve Students' Reading Comprehension at Second Grade of Junior High School Muhammadiyah 01 Malang," 2016.

Harida, Eka Sustri. "Using Critical Reading Strategies; One Way For Assesing Students ' Reading Comprehension," 2016, 199–206. http://ejournal.unp.ac.id/index.php/selt/article/download/6929/5463.

Harmer, Jeremy. The Practice of English Language Teaching,. Malaysia: Longman, 2003.

Jhonson, Andrew P. Teaching Reading and Writing. United States of America, 2008.

K M Roebl, Connie Shiue, and St John. K M Roebl, Connie Shiue, and St John, "Developing Reading Comprehension Skills in EFL University Level Students, 2002.

L. R. Gay. Educational Research: Competence for Analysis and Applications. Edited by Jeffery W. Johnston. 10th ed. Boston: Pearson Education, Inc, 2012.

Lee, Mary, and L Deborah. Eisenhower Program for Mathematics and Science Education, 2001.

Mahmuda, Umamatul, and Habil Zare. "Improving The Students' Reaading Comprehension of Recount Text Through Retelling," no. December (2017): 132.

Mardalis. Metode Penelitian: Suatu Pendekatan Proposal. Jakarta: Bumi Aksara, 2003.

Moreillon, Judi. Collaborative Strategies for Teaching Reading Comprehension. American Library Association, 2007.

Ningsih, Surya. "Improving the Students ' Ability in Reading of Narrative Text Trought Question Answer Relationship at The Tenth Grade of Man Binjai," 2017, 92.

Nunan, David. Practical English Language Teaching. 1stEdition ed. New York: McGraw Hill, 2003.

Pardiyono. Pasti Bisa! Teaching Genre-Based Writing. Yogyakarta: PENERBIT ANDI, 20017.

Ramasari, Maria, and Cintia Novtarina. "Teaching Reading Comprehension By Using Predict, Locate, Add Note Strategy To The Eighth Grade Students Of Smp Negeri 2 Lubuklinggau Maria" 5, no. 1 (n.d.): 95–102.http://ejournal.unp.ac.id/index.php/komposisi/article/download/8993/pdf.

Seagrave, Lindy J. "Implementation of the PLAN Reading Strategy In a Secondary Science Classroom Lindy," 2006.

Sudijono, Anas. Pengantar Statistik Pendidikan. Jakarta: Raja Grafindo Persada, 2008.

Tarigan, Henry Guntur. Membaca Sebagai Suatu Kerampilan Berbahasa. Bandung: Angkasa, 1980.

CURRICULUM VITAE

A. Identify

Name	: Ulan Dahari
Reg. No	: 15 203 00068
Place/ Birth	: Huta Puli, September, 29th 1996
Sex	: Female
Religion	: Islam
Address	: Padangmatinggi Padangsidimpuan Selatan

B. Parents

Father's name	: Kari Muda Lubis
Mother's name	: Nurlela

C. Educational Bacground

1.	Elementary School	: SD Negeri 1 Pasar Lama Sigalangan	(2009)
2.	Junior High School	: SMP Negeri 1 Batang Angkola	(2012)
3.	Senior High School	: SMA Negeri 1 Batang Angkola	(2015)
4.	Institute	: IAIN Padangsidimpuan	(2019)

Appendix 1

Experimental Class

RENCANA PELAKSANAAN PEMBELAJARAN (RPP)

Nama Sekolah :SMAN 3 Padangsidimpuan
Mata Pelajaran : Bahasa Inggris
Kelas/Semester : X / 1
Materi Pokok : Report Text
Alokasi Waktu : 4 x 45 menit (2 kali pertemuan)

A. KompetensiInti :
   1. KI 1 : Menghayati dan mengamalkan ajaran agama yang dianutnya
   2. KI2 : Menghayati dan mengamalkan perilaku jujur, disiplin, tanggung jawab, peduli (gotong royong, kerjasama, toleran, damai), santun, responsif dan pro-aktif dan menunjukan sikap sebagai bagian dari solusi atas berbagai permasalahan dalam berinteraksi secara efektif dengan lingkungan sosial dan alam serta dalam menempatkan diri sebagai cerminan bangsa dalam pergaulan dunia
   3. KI 3 : Memahami, menerapkan, menganalisis pengetahuan faktual, konseptual, prosedural berdasarkan rasa ingin tahunya tentang ilmu pengetahuan,teknologi,seni, budaya, dan humaniora dengan wawasan kemanusiaan, kebangsaan, kenegaraan, dan peradaban terkait penyebab fenomena dan kejadian, sertamenerapkan pengetahuan prosedural pada bidang kajian yang spesifik sesuai dengan bakat dan minatnya untuk memecahkan masalah.
   4. KI 4 : Mengolah, menalar, dan menyaji dalam ranah konkret dan ranah abstrak terkait dengan pengembangan dari yang dipelajarinya di sekolah secara mandiri, dan mampu menggunakan metoda sesuai kaidah keilmuan

B. KompetensiDasar:
   1. Mensyukuri kesempatan dapat mempelajari bahasa Inggris sebagai bahasa pengantar komunikasi International yang diwujudkan dalam semangat belajar
   2. Menunjukkan perilaku tanggung jawab, peduli, kerjasama, dan cinta damai, dalam melaksanakan komunikasi fungsional
   3. Menganalisis struktur teks dan unsur kebahasaan untuk melaksanakan fungsi sosial teks ilmiah faktual (*factual report*) dengan menyatakan dan menanyakan tentang teks ilmiah faktual tentang orang, binatang, benda, gejala dan peristiwa alam dan sosial, sederhana, sesuai dengan konteks pembelajaran di pelajaran lain di Kelas XI

4. Menangkap makna dalam teks ilmiah faktual (*factual report*), lisan dan tulis, sederhana, tentang orang, binatang, benda, gejala dan peristiwa alam dan sosial, terkait dengan mata pelajaran lain di Kelas XI.

C. Indikator :
   1. Mengidentifikasi fungsi sosial, struktur teks, dan unsur kebahasaan dari report text
   2. Menemukan informasi rinci dari report text
   3. Menemukan makna kata dari makna dalam teks ilmiah faktual (*factual report*), lisan dan tulis, sederhana, tentang orang, binatang, benda, gejala dan peristiwa alam dan sosial, terkait dengan mata pelajaran lain di Kelas XI

D. Materi :
   1. Generic Structure Report Text :
      a. General Clasification ; pernyataan umum yang menerapkan subjek laporan, keterangan, dan klasifikasinya
      b. Descrption ; tells what the phenomenon under discussion ; in terms of parts, qualities, habits or behaviors; Pada bagian ini biasanya memberikan gambaran fenomena yang terjadi baik itu bagian-bagiannya, sifat-sifatnya, kebiasaanya, ataupun tingkah lakunya. Intinya adalah penjabaran dari klasifikasi yang disajikan dengan ilmiah.
   2. Language Feature of Report :
      a. The use of general nouns
      b. The use of present tense
      c. The use of behavioral verbs

E. KegiatanPembelajaran :
   1. KegiatanPendahuluan
      a. Greeting, praying and checking the students' readiness
   2. KegiatanInti
      a. Guru menjelaskan mengenai report text
      b. Guru memberi text report text
      c. Guru menjelaskan mengenai 4 strategi PLAN untuk diterapkan siswa
      d. **Predict :** Siswa membaca Scanning teks report dan memprediksi isi teks dari judul dan kata kunci
      e. **Locate :** Para siswa menemukan apa yang mereka ketahui dan tidak mereka ketahui tentang informasi yang ada dalam teks dengan membuat

tanda centang di isi atau vocab yang diketahui dan tanda tanya untuk isi atau vocab yang tidak diketahui.

f. **Add :** Siswa memahami konten dengan menambahkan kata atau frase pendek ke peta mereka untuk menjelaskan konsep yang ditandai dengan tanda tanya untuk mengkonfirmasi dan memperluas pengetahuan
g. **Note :** Para siswa mencatat pemahaman baru mereka melalui diskusi dan membuat catatan.
h. Guru memberi konfirmasi tentang hasil penyajian siswa
   Generalization (menarik kesimpulan)
i. Guru menyimpulkan materi dan memberikan ulasan

3. KegiatanPenutup
   a. Memberikan penilaian berupa latihan-latihan untuk mengetahui sejauh mana kemampuan siswa
   b. Memberikan motivasi kepada siswa yang kurang dan belum bisa mengikuti dalam materi
   c. Guru menutup pelajaran dengan doa dan salam

F. Media :
   Laptop, buku yang relevan, white board, board marker.

G. Sumber :
   1. Buku Bahasa Inggris Departemen Pendidikan dan Kebudayaan
   2. Internet
   3. Suara guru

H. Penilaian:

Indicator Pencapaian Kompetensi	**Teknik Penilaian**	**Bentuk Instru-ment**	**Instrument Soal**
1. Mengidentifikasi gagasan utama dalam report text 2. Memahami informasi rinci dalam report text 3. Memahami informasi tertentu dalam teks eksposisi 4. Memahami makna kalimat atau kata dalam report text	Tes Tulisan	Pilihan Ganda	Read the text carefully and then choose the correct answer based on the text by crossing a, b, c, or d!

1. Pedoman penilaian : Jumlah skor maksimal keseluruhan adalah 100. Setiap jawaban yang benar diberi skor 5. Jumlah skor keseluruhan 5 × 20 = 100. (Tes Tertulis).

Mengetahui,

English Teacher	**Researcher**
Syaripuddin Siregar S.Pd	**Ulan Dahari**
NIP. 196906021995121002	**NIM. 15 203 00068**

Appendix 2
Control Class

RENCANA PELAKSANAAN PEMBELAJARAN (RPP)

Nama Sekolah	: SMAN 3 Padangsidimpuan
Mata Pelajaran	: Bahasa Inggris
Kelas/Semester	: X / 1
Materi Pokok	: Report Text
Alokasi Waktu	: 4 x 45 menit (2 pertemuan)

I. KompetensiInti :
   1. KI 1 : Menghayati dan mengamalkan ajaran agama yang dianutnya
   2. KI2 : Menghayati dan mengamalkan perilaku jujur, disiplin, tanggung jawab, peduli (gotong royong, kerjasama, toleran, damai), santun, responsif dan pro-aktif dan menunjukan sikap sebagai bagian dari solusi atas berbagai permasalahan dalam berinteraksi secara efektif dengan lingkungan sosial dan alam serta dalam menempatkan diri sebagai cerminan bangsa dalam pergaulan dunia
   3. KI 3 : Memahami, menerapkan, menganalisis pengetahuan faktual, konseptual, prosedural berdasarkan rasa ingin tahunya tentang ilmu pengetahuan,teknologi,seni, budaya, dan humaniora dengan wawasan kemanusiaan, kebangsaan, kenegaraan, dan peradaban terkait penyebab fenomena dan kejadian, serta menerapkan pengetahuan prosedural pada bidang kajian yang spesifik sesuai dengan bakat dan minatnya untuk memecahkan masalah.
   4. KI 4 : Mengolah, menalar, dan menyaji dalam ranah konkret dan ranah abstrak terkait dengan pengembangan dari yang dipelajarinya di sekolah secara mandiri, dan mampu menggunakan metoda sesuai kaidah keilmuan

J. KompetensiDasar:
   1. Mensyukuri kesempatan dapat mempelajari bahasa Inggris sebagai bahasa pengantar komunikasi International yang diwujudkan dalam semangat belajar
   2. Menunjukkan perilaku tanggung jawab, peduli, kerjasama, dan cinta damai, dalam melaksanakan komunikasi fungsional
   3. Menganalisis struktur teks dan unsur kebahasaan untuk melaksanakan fungsi sosial teks ilmiah faktual (*factual report*) dengan menyatakan dan menanyakan tentang teks ilmiah faktual tentang orang, binatang, benda,

gejala dan peristiwa alam dan sosial, sederhana, sesuai dengan konteks pembelajaran di pelajaran lain di Kelas XI

4. Menangkap makna dalam teks ilmiah faktual (*factual report*), lisan dan tulis, sederhana, tentang orang, binatang, benda, gejala dan peristiwa alam dan sosial, terkait dengan mata pelajaran lain di Kelas XI.

K. Indikator :

1. Mengidentifikasi fungsi sosial, struktur teks, dan unsur kebahasaan dari report text
2. Menemukan informasi rinci dari report text
3. Menemukan makna kata dari makna dalam teks ilmiah faktual (*factual report*), lisan dan tulis, sederhana, tentang orang, binatang, benda, gejala dan peristiwa alam dan sosial, terkait dengan mata pelajaran lain di Kelas XI

L. Materi :

1. Generic Structure Report Text :
   a. General Clasification ; pernyataan umum yang menerapkan subjek laporan, keterangan, dan klasifikasinya
   b. Descrption ; tells what the phenomenon under discussion ; in terms of parts, qualities, habits or behaviors; Pada bagian ini biasanya memberikan gambaran fenomena yang terjadi baik itu bagian-bagiannya, sifat-sifatnya, kebiasaanya, ataupun tingkah lakunya. Intinya adalah penjabaran dari klasifikasi yang disajikan dengan ilmiah.
2. Language Feature of Report :
   a. The use of general nouns
   b. The use of present tense
   c. The use of behavioral verbs

M. Kegiatan Pembelajaran :

1. Kegiatan Pendahuluan
   Greeting, praying and checking the students' readiness
2. Kegiatan Inti
   a. Guru memberi konfirmasi tentang hasil penyajian siswa
   Generalization (menarik kesimpulan)
   b. Guru menyimpulkan materi dan memberikan ulasan

3. Kegiatan Penutup
   a. Memberikan penilaian berupa latihan-latihan untuk mengetahui sejauh mana kemampuan siswa
   b. Memberikan motivasi kepada siswa yang kurang dan belum bisa mengikuti dalam materi
   c. Guru menutup pelajaran dengan doa dan salam

N. Media :

Laptop, buku yang relevan,white board, board marker.

O. Sumber :

1. Buku Bahasa Inggris Departemen Pendidikan dan Kebudayaan
2. Internet
3. Suara guru

P. Penilaian:

Indicator Pencapaian Kompetensi	**Teknik Penilaian**	**Bentuk Instru-ment**	**Instrument Soal**
5. Mengidentifikasi gagasan utama dalam report text 6. Memahami informasi rinci dalam report text 7. Memahami informasi tertentu dalam teks eksposisi 8. Memahami makna kalimat atau kata dalam teks report teks	Tes Tulisan	Pilihan Ganda	Read the text carefully and then choose the correct answer based on the text by crossing a, b, c, or d!

1. Pedoman penilaian : Jumlah skor maksimal keseluruhan adalah 100. Setiap jawaban yang benar di beriskor 5. Jumlah skor keseluruhan 5×20=100. (Tes Tertulis).

Mengetahui,

English Teacher **Researcher**

Syaripuddin Siregar S.Pd **Ulan Dahari**
NIP. 196906021995121002 **NIM. 15 203 00068**

APPENDIX 3
LEARNING MATERIAL FOR PRE TEST

(After testing validity)

Choose the correct answer by crossing (X) a, b, c, or d!

Read the following text and answer the questions 1 to 6

Jellyfish

Jellyfish are not really fish. They are invertebrate animals. This means that unlike fish or people, they have no backbones. In fact, they have no bones at all

Jellyfish have stomachs and mouths, but no heads. They have nervous systems for sensing the world around them, but no brains. They are made almost entirely of water, which is why you can look through them.

Some jellyfish can glow in darkness by making their own light. The light is made by a chemical reaction inside the jellyfish. Scientists believe jellyfish glow for several reasons. For example, they may glow to scare away predators or to attract animals they like to eat.

Most jellyfish live in salt water, apart from a few types that live in fresh water. Jellyfish are found in oceans and seas all over the world. They live in warm, tropical seas and in icy waters near the North and South poles.

1. Which one creates Jellyfish's light?

a. White blood c. Chemical reaction

b. Nervous system d. Salt water

2. What is the main idea of the first paragraph?

   a. Jellyfish are really fish
   b. Jellyfish are not really fish
   c. Jellyfish are animals
   d. Jellyfish arevertebrate animals

3. Based on the text, we know that….

   a. Jellyfish belong to invertebrate animals
   b. Jellyfish have heads like other animals
   c. Jellyfish's brain helps them find the food
   d. Jellyfish cannot live in fresh water

4. Which one is not true?

a. Jellyfish have brain and head
b. Some jellyfish can grow in the darkness
c. There is no jellyfish' head
d. Jellyfish are found in the ocean and seas

5. What is the main idea of the fourth paragraph?
   a. Most jellyfish live in salt water
   b. Most jellyfish live in fresh water
   c. Most jellyfish live in the river
   d. Most jellyfish live in the lake

6. "Some jellyfish can glow in darkness by making their own light." (Paragraph 3).The word "glow" in the sentence means….
   a. Move c. Appear
   b. Produce d. Shine

Read the following text and answer the questions 7 to 12

Giraffe

Giraffe is the highest animal in the world. Its height can reach 4.8 to 5.5 meters and its weight about 1360 pounds. Giraffe has a unique characteristic. They have a very long neck and two small horns on its head. Giraffes have big brown eyes and protected by thick and long eyebrows. Her body is covered with a unique pattern that is attached by brown spots all over their body.

Just like camels, giraffes can survive without drinking for long time because giraffes can rely on the water contained in leaves they eat. Giraffes are very selective in choosing food. They always eat young leaves that grow in the tree tops. Their tongue shaped like a knife help them to cut branches which are very hard.

Female giraffes can start pregnant at the age of five years, with a gestation period of 15 months. Commonly female giraffe bear one baby, but sometimes two babies at once. Giraffes bear its baby with a standing position. When the baby is about to be born, they just drop it to the ground from a 1.5 meter of height. Baby giraffe can stand with about 20 minutes since being born, and begin breastfeeding within an hour of birth.

7. What is the main idea of the first paragraph?
   a. Giraffe is the shortest animal in the world
   b. Giraffe is the highest animal in the world
   c. Giraffe isnot the highest animal in the world
   d. Giraffe has a unique characteristic
8. From the text we know that….
   a. Giraffes have big black eyes
   b. Giraffe never eats young leaves
   c. Giraffes can survive without drinking for long time
   d. Giraffes is same as camels
9. How old the female giraffe can start pregnant?
   a. Three years
   b. at the age of five years
   c. Under five years
   d. at the age of four years
10. The unique characteristic of giraffe is?
   a. Two horns on its head
   b. They have long neck
   c. Brown spot
   d. Their food
11. The true statement base on text is….
   a. Giraffe bears its baby with a standing position
   b. Female giraffe can start pregnant under the age of five years
   c. Their tongue are sharp like a knife
   d. Giraffe has two small sharp head
12. …. They just drop it to the ground from 1.5 meter of height.
   The word "it" in third paragraph refers to?
   a. Neck
   a. Horn
   c. Baby giraffe
   d. Food

Read the following text and answer the questions 13 to 16

Gardenia plants

Gardenia plants are popular for the strong sweet scent of their flowers. Gardenia is the national flower in Pakistan. In Japan and China, the flower is called Kuchinashi (Japanese) and Zhi zi (Chinese).

Gardenia plants are evergreen shrubs. Their small trees can grow to 1 - 5 meters tall. The leaves are 5 - 50 centimeters long and 3 - 25 centimeters broad, dark green and glossy with a leathery texture. The flowers are in small groups, white, or pale yellow, with 5-12 lobes (petals) from 5-12 centimeters diameter. They usually bloom in mid- spring to mid-summer. Many species have strong aroma.

To cultivate gardenia as a house plant is not easy. This species can be difficult to grow because it originated in warm humid tropical areas. It demands high humidity and bright (not direct) light to thrive. It flourishes in acidic soil with good drainage and thrives on 20° – 23° C during the day and 15° – 16° C in the evening. Potting soils developed specifically for gardenias are available. It grows no larger than 18 inches in height and width when grown indoor. In climates where it can be grown outdoors, it can reach the height of 6 feet. If water hits the flowers, they will turn brown.

13. How tall is a gardenia tree?
    a. 3 - 25 cm
    b. 5-12 cm
    c. 5-50 cm
    d. 1-5 m
14. What is the main idea of the last paragraph?
    a. It is easy to plant a gardenia tree.
    b. A gardenia plant needs high humidity
    c. It's not easy to plant gardenia as a house plant
    d. A good drainage is important for gardenia plant
15. From the text we know that....
    a. people don't like the strong scent of the flower
    b. Gardenia is widespread in Asia
    c. flower is easy to plant
    d. the flower is expensive
16. "... because <u>it</u> originated in warm ..." (Paragraph 3, line 10)
    The underlined word refers to....
    a. the flower
    b. the species
    c. the soil
    d. The leaf

Read the following text and answer the questions 17 to 20

Spiders are not insects. They are arachnids. Arachnids have four pairs of legs but only two body parts. Insects have three pairs of legs and three body parts. Spiders have two to four pairs of eyes. They can see extremely well.

Spiders eat small insects such as flies and mosquitoes, and sometime bit people. When a spider bites insect, it does not kill the insect immediately. Instead a special poison passes through its fangs, and this poison paralyzed the body to the unlucky insects.

Most spiders make their own homes. They do this with a special substance produced by their bodies. In the corner of some rooms it is possible to find a spider's web where the spider is waiting for its next dinner guest.

The spider has special teeth called …..

17. The spider has special teeth called …..
    a. Poison
    b. Arachnids
    c. fangs
    d. quest
18. The true statement according to the text is….
    a. Spiders are special insects that have three pair of legs
    b. Arachnids have three pairs of legs and two body parts
    c. Spiders are not insects but arachnids that can see quite well
    d. Spiders do not like other small insects as their food
19. The difference between spider and insect are except….
    a. Insects have three pairs of legs
    b. Spiders have four pairs of legs
    c. Insects' home are like spiders
    d. Insects have three body parts
20. The main idea of the second paragraph is….
    a. Spiders eat small insect
    b. Spiders eat flies and mosquitoes
    c. Spiders bites people
    d. Spiders are not

APPENDIX 4

LEARNING MATERIAL FOR POST TEST

(After testing validity)

Instruction: choose the correct answer by crossing (X) a, b, c, or d!

Read the following text and answer the questions 1 to 5

Antibiotic is kind of compounds both natural and synthetic, which has function to press or stop a process of organism's growth, particularly bacteria. Antibiotic is used to treat bacterial infections and used as a tool for genetic engineering in biotechnology. Antibiotic works as pesticides by pressing or break the chain of bacteria's metabolism. Nevertheless, antibiotic is different with disinfectant in the process to kills bacteria. Disinfectant kills bacteria by creating an unnatural environment for germs to live.

In terms of treatment, antibiotics dubbed as "magic bullet "because antibiotic kills instantly without injuring its sufferers. Although antibiotic is good for medication, it is not effective in handling infection caused by viruses, fungi, or other nonbacterial.

Antibiotic has diverse types based on their effectiveness against bacteria. There are antibiotics that target gram- negative or gram- positive bacteria and some antibiotic has wider spectrum. The effectiveness depends on location of the infection and the ability of antibiotic to reach location of the infection. Based on how to use, antibiotics are divided into two that are oral antibiotics and antibiotic intradermal. An oral antibiotic is used by mouth while antibiotic intradermal used through anus. Intradermal antibiotic is used for serious cases.

1. What is the main idea of the first paragraph?
   a. antibiotic has function to press or stop a process of organism's growth, particularly bacteria
   b. Antibiotic is kind of compounds both natural and synthetic
   c. Antibiotic is used to treat bacterial infections
   d. Antibiotic is used as a tool for genetic engineering in biotechnology
2. Which one is not true?
   a. Antibiotic is used to treat bacterial infections
   b. Antibiotic is not same with disinfectant
   c. Antibiotic is effective in handling infection caused by viruses
   d. Antibiotic kills instantly without injuring its sufferers
3. In terms of treatment, antibiotics <u>dubbed</u> as "magic bullet "…. (Paragraph2)
   The underline word close in meaning to….
   a. work c. say
   b. seen d. Call
4. Based on how to use, antibiotics are divided into two, they are….
   a. antibiotics that target gram- negative or gram- positive bacteria and wider spectrum
   b. oral antibiotics and antibiotic intradermal
   c. antibiotics that target gram- negative and gram- positive

d. oral
e. antibiotics and gram- positive bacteria antibiotics

5. What is the main idea of the second paragraph?
   a. Antibiotic is a compound
   b. Antibiotic kills instantly without injuring its suffers
   c. Antibiotic is good for medication
   d. Antibiotic is not good for fungi

Read the following text and answer the questions 6 to 12

Octopus

The octopus is an ocean creature with eight effective feet which it utilizes as hands. These are called tentacles or limbs. "Octopus" originates from two words that have meaning "eight feet".

The octopus, the squid and the cuttlefish fit in with the same family that has no outside shells. Their bodies are secured totally with skin. Along these lines the assortment of an octopus is delicate. It would appear that a huge blow up. A completely developed octopus can be as huge as 8,5 meters from the tip of one arms to the tip of another. It can weigh as much as 45 kilograms.

Other than utilizing its tentacles or limbs to catch little fish, ocean plants, crab and lobsters, the octopus additionally utilizes them against its adversaries. The octopus wraps its appendages around the exploited person and crushes it before eating it

The octopus escapes from its adversaries by giving out a thick dull liquid to obscure the water. It can likewise change the color of its body to match its surroundings. It escapes its enemies by doing this.

6. Which group of sea creatures belongs to the same family with octopus?
   a. turtle and squid c. crab and cuttlefish
   b. shrimp and crab d. cuttlefish and squid
7. How much a fully-grown octopus can weigh?
   a. 25 kilograms c. 45 kilograms
   b. 35 kilograms d. 55 kilograms
8. The main idea of the first paragraph is….
   a. The octopus have eight effective feet which it utilizes as hands
   b. "Octopus" originates from two words that have meaning "eight feet"
   c. The octopus have limbs
   d. The octopus have eight tentacles
9. How does the octopus look for food?
   a. It uses magic colors c. It uses its hand
   b. It uses its teeth. d. It uses its tentacles
10. The word "octopus" mean.…
   a. Eight feeth c. Fish

b. Dark fish d. Ghost Sea

11. The word “them” in the thirds paragraph (line 10) refers to the octopus’…
    a. Teeth c. Tentacles
    b. Enemies d. Utilizes
12. What does the octopus do to run away or escape from its enemy?
    a. stings the enemies
    b. gives out a tick dark fluid to darken the water
    c. swims
    d. runs

Read the following text and answer the questions 13 to 16

Dolphin

For many years people believed that the cleverest animals after man were the chimpanzees. Now, however, there is a proof that dolphins may be even cleverer than these big apes. Although a dolphin lives in the sea, it is not a fish. It is a mammal. It is in many ways, therefore, like a human being.

Dolphins have a simple language. They are able to talk to one another. It may be possible for man to learn how to talk to dolphins. But, this will not be easy because dolphins cannot hear the kind of sounds man can make. If man wants to talk to dolphins, therefore, he will have to make a third language which both he and the dolphins can understand. Dolphins are also very friendly toward man. They often follow ships. There are many stories about dolphins guiding ships through difficult and dangerous waters.

13. What kind of animal is dolphin?
    a. Insect c. Mammal
    b. Fish d. Bird
14. Why talking to dolphin is not easy?
    a. dolphins cannot hear the kind of man’s sounds
    b. dolphins cannot think as human
    c. dolphins like playing with man
    d. dolphins feel annoyed by man
15. What is the main idea of the second paragraph?
    a. Dolphins are very friendly toward man
    b. Dolphins have a difficult language
    c. Dolphins have a simple language
    d. Dolphins are able to talk to man
16. What is the characteristic of dolphin according to the text?

a. Fierce c. naughty

b. Friendly d. Shy

Read the following text and answer the questions 17 to 20

Gold

Gold is a precious metal. Gold is used as ornaments or as money.

Gold is found in many places, but in a small supply. It is often found on the surface of the earth. Since gold is a heavy substance, it is sometimes found loose on bottom of rivers. The gold is found together with sand and rocks, and must be separated from them. It is simple to search for this type of gold.

It is not usually necessary to drill for gold, but when a layer of gold is located deep below the surface of the earth, it is possible to drill a hole into the ground. Engineers have developed modern process for removing gold from rocks.

Since gold is not very hard, it is sometimes melted and added to other substances for making rings, coins, and art objects. It will be priced forever because it is beautiful, rare, and useful.

17. The main idea of the second paragraph is...

    a. Gold is found in many places

    b. Gold is found in found on the surface of the earth

    c. Gold is found in found on the river

    d. Gold is a heavy substance

18. The following are associated with gold, except....

    a. Useful c. Beautiful

    b. Precious d. unnecessary

19. It is sometimes found loose on bottom of rivers.
    The word "it" refers to…

    a. Metal c. earth

    b. River d. Gold

20. "It will be priced forever because…." (Paragraph 4) The underlined word means…

    a. Valuable c. interesting

    b. Worthless d. Wonderful

Appendix 7

Key Answer

A. PRE TEST

1. C
2. B
3. A
4. A
5. A
6. D
7. B
8. C
9. B
10. B
11. A
12. C
13. D
14. C
15. B
16. B
17. C
18. C
19. C
20. A

B. POST TEST

1. A
2. C
3. D
4. B
5. B
6. D
7. C
8. A
9. D
10. A
11. C
12. B
13. C
14. A
15. C
16. B
17. A
18. D
19. D
20. A

Calculation of Pre-Test

1. Mean score from score total (M_t)

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

$M_t = \frac{512}{25} = 20.48$

2. Standard Deviation (SD_t)

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

$SD_t = \sqrt{\frac{11942}{25} - \left(\frac{512}{25}\right)^2}$

$SD_t = \sqrt{477.68 - 20.48^2}$

$SD_t = \sqrt{477.68 - 419.43}$

$SD_t = \sqrt{58.25} = 7.63$

3. Mean Score (M_p)

Item 1

$M_{pl} = \frac{totalscoreofstudents'scorethattrueitemanswer}{n1}$

$M_{pl} = \frac{26+22+15+29+25+29+25+23+27+25+26+29+24+15+27+27+26}{17}$

$M_{pl} = \frac{420}{17} = 24.70$

Item 2

$M_{pl} = \frac{totalscoreofstudents'scorethattrueitemanswer}{n1}$

$M_{pl} = \frac{26+22+15+29+25+29+25+23+27+25+26+29+24+15+27+27+26}{17}$

$M_{pl} = \frac{420}{17} = 24.70$

Item 3

$M_{pl} = \frac{totalscoreofstudents'scorethattrueitemanswer}{n1}$

$M_{pl} = \frac{26+10+29+25+29+25+23+18+27+25+26+17+29+18+24+15+27+27+26}{19}$

$M_{pl} = \frac{446}{19} = 23.47$

Item 4

$M_{pl} = \frac{totalscoreofstudents'scorethattrueitemanswer}{n1}$

$M_{pl} = \frac{26+10+29+25+29+25+23+18+27+25+26+17+29+18+24+15+27+27+26}{19}$

$M_{pl} = \frac{446}{19} = 23.47$

Item 5

$M_{pl} = \frac{totalscoreofstudents'scorethattrueitemanswer}{n1}$

$M_{pl} = \frac{26+22+15+29+25+29+25+23+18+27+25+26+29+18+24+15+27+27+8+8+26+11}{21}$

$M_{pl} = \frac{468}{21} = 22.28$

Item 6

$$M_{pl} = \frac{total\,score\,of\,students'\,score\,that\,true\,item\,answer}{n1}$$

$$M_{pl} = \frac{26+22+15+10+29+25+29+25+23+18+27+25+26+17+29+18+24+27+27+8+26}{21}$$

$$M_{pl} = \frac{476}{21} = 22.66$$

Item 7

$$M_{pl} = \frac{total\,score\,of\,students'\,score\,that\,true\,item\,answer}{n1}$$

$$M_{pl} = \frac{29+25+29+25+18+17+29+24+27+27+8+11}{12}$$

$$M_{pl} = \frac{269}{12} = 22.41$$

Item 8

$$M_{pl} = \frac{total\,score\,of\,students'\,score\,that\,true\,item\,answer}{n1}$$

$$M_{pl} = \frac{26+22+15+10+29+29+23+27+26+17+29+18+24+27+27+8+26+11}{18}$$

$$M_{pl} = \frac{394}{18} = 21.88$$

Item 9

$$M_{pl} = \frac{total\,score\,of\,students'\,score\,that\,true\,item\,answer}{n1}$$

$$M_{pl} = \frac{26+22+15+10+29+29+23+27+26+17+29+18+24+27+27+8+26+11}{18}$$

$$M_{pl} = \frac{394}{18} = 21.88$$

Item 10

$$M_{pl} = \frac{total\,score\,of\,students'\,score\,that\,true\,item\,answer}{n1}$$

$$M_{pl} = \frac{29+23+27+25+26+17+18+24+8}{9}$$

$$M_{pl} = \frac{197}{9} = 21.88$$

Item 11

$$M_{pl} = \frac{total\,score\,of\,students'\,score\,that\,true\,item\,answer}{n1}$$

$$M_{pl} = \frac{26+22+15+10+29+25+29+25+23+18+27+25+26+17+29+18+24+27+27+8+26}{21}$$

$$M_{pl} = \frac{476}{21} = 22.66$$

Item 12

$$M_{pl} = \frac{total\,score\,of\,students'\,score\,that\,true\,item\,answer}{n1}$$

$$M_{pl} = \frac{26+22+15+29+25+29+25+23+27+25+26+29+24+15+27+27+26}{17}$$

$$M_{pl} = \frac{420}{17} = 24.70$$

Item 13

$$M_{pl} = \frac{totalscoreofstudents'scorethattrueitemanswer}{n1}$$

$$M_{pl} = \frac{26+22+29+25+29+25+18+27+25+26+29+18+27+27+26}{15}$$

$$M_{pl} = \frac{379}{15} = 25.26$$

Item 14

$$M_{pl} = \frac{totalscoreofstudents'scorethattrueitemanswer}{n1}$$

$$M_{pl} = \frac{26+10+29+25+29+25+23+18+27+25+26+17+29+18+24+15+27+27+26}{19}$$

$$M_{pl} = \frac{446}{19} = 23.47$$

Item 15

$$M_{pl} = \frac{totalscoreofstudents'scorethattrueitemanswer}{n1}$$

$$M_{pl} = \frac{26+22+29+25+29+25+18+27+25+26+29+18+27+27+26}{15}$$

$$M_{pl} = \frac{379}{15} = 25.26$$

Item 16

$$M_{pl} = \frac{totalscoreofstudents'scorethattrueitemanswer}{n1}$$

$$M_{pl} = \frac{26+22+29+25+29+25+18+27+25+26+29+18+27+27+26}{15}$$

$$M_{pl} = \frac{379}{15} = 25.26$$

Item 17

$$M_{pl} = \frac{totalscoreofstudents'scorethattrueitemanswer}{n1}$$

$$M_{pl} = \frac{26+22+29+25+29+25+23+18+27+25+26+17+29+24+15+27+27+8+26+11}{20}$$

$$M_{pl} = \frac{459}{20} = 22.95$$

Item 18

$$M_{pl} = \frac{totalscoreofstudents'scorethattrueitemanswer}{n1}$$

$$M_{pl} = \frac{26+10+29+25+29+25+23+18+27+25+26+17+29+18+24+15+27+27+26}{19}$$

$$M_{pl} = \frac{446}{19} = 23.47$$

Item 19

$$M_{pl} = \frac{totalscoreofstudents'scorethattrueitemanswer}{n1}$$

$$M_{pl} = \frac{26+22+15+10+29+25+29+25+23+18+27+25+26+17+29+18+24+27+27+8+26}{21}$$

$$M_{pl} = \frac{476}{21} = 22.66$$

Item 20

$$M_{pl} = \frac{totalscoreofstudents'scorethattrueitemanswer}{n1}$$

$$M_{pl} = \frac{26+22+15+2+29+25+29+25+23+27+25+26+29+24+15+27+27+26}{18}$$

$$M_{pl} = \frac{422}{18} = 23.44$$

Item 21

$$M_{pl} = \frac{totalscoreofstudents'scorethattrueitemanswer}{n1}$$

$$M_{pl} = \frac{26+22+2+29+25+29+25+23+18+27+25+26+17+29+24+15+27+27+8+26+11}{21}$$

$$M_{pl} = \frac{476}{21} = 22.66$$

Item 22

$$M_{pl} = \frac{totalscoreofstudents'scorethattrueitemanswer}{n1}$$

$$M_{pl} = \frac{26+22+15+29+25+29+25+23+18+27+25+17+29+24+15+27+27+8+8+26+11}{21}$$

$$M_{pl} = \frac{482}{21} = 22.95$$

Item 23

$$M_{pl} = \frac{totalscoreofstudents'scorethattrueitemanswer}{n1}$$

$$M_{pl} = \frac{29+29+23+17+29+24+11}{7}$$

$$M_{pl} = \frac{162}{7} = 23.14$$

Item 24

$$M_{pl} = \frac{totalscoreofstudents'scorethattrueitemanswer}{n1}$$

$$M_{pl} = \frac{29+29+23+17+29+24+11}{7}$$

$$M_{pl} = \frac{162}{7} = 23.14$$

Item 25

$$M_{pl} = \frac{totalscoreofstudents'scorethattrueitemanswer}{n1}$$

$$M_{pl} = \frac{26+22+15+29+25+25+18+27+25+26+29+18+15+27+27+8+8+26+11}{19}$$

$$M_{pl} = \frac{407}{19} = 21.42$$

Item 26

$$M_{pl} = \frac{totalscoreofstudents'scorethattrueitemanswer}{n1}$$

$$M_{pl} = \frac{26+22+29+25+29+25+18+27+25+26+29+18+27+27+26}{15}$$

$$M_{pl} = \frac{379}{15} = 25.26$$

Item 27

$$M_{pl} = \frac{totalscoreofstudents'scorethattrueitemanswer}{n1}$$

$$M_{pl} = \frac{26+22+15+10+29+25+29+25+23+27+25+26+17+29+18+24+15+27+27+8+26+11}{22}$$

$$M_{pl} = \frac{484}{22} = 22$$

Item 28

$$M_{pl} = \frac{totalscoreofstudents'scorethattrueitemanswer}{n1}$$

$$M_{pl} = \frac{26+22+15+29+25+29+25+23+27+25+26+29+24+15+27+27+26}{17}$$

$$M_{pl} = \frac{420}{17} = 24.70$$

Item 29

$$M_{pl} = \frac{totalscoreofstudents'scorethattrueitemanswer}{n1}$$

$$M_{pl} = \frac{26+22+15+29+25+29+25+23+27+25+26+29+24+15+27+27+26}{17}$$

$$M_{pl} = \frac{420}{17} = 24.70$$

Item 30

$$M_{pl} = \frac{totalscoreofstudents'scorethattrueitemanswer}{n1}$$

$$M_{pl} = \frac{26+22+29+25+29+25+18+27+25+26+29+18+27+27+26}{15}$$

$$M_{pl} = \frac{379}{15} = 25.26$$

Calculation of the formulation

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

Item 1

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

$$r_{pbi} = \frac{24.7-20.48}{7.63}\sqrt{\frac{0.7}{0.3}}$$

$$r_{pbi} = \frac{4.22}{7.63}\sqrt{2.3}$$

r_{pbi}= 0.55 x 1.52 = 0.83

Item 2

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

$$r_{pbi} = \frac{24.7-20.48}{7.63}\sqrt{\frac{0.7}{0.3}}$$

$$r_{pbi} = \frac{4.22}{7.63}\sqrt{2.3}$$

r_{pbi}= 0.55 x 1.52 = 0.83

Item 3

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

$$r_{pbi} = \frac{23.47-20.48}{7.63}\sqrt{\frac{0.8}{0.2}}$$

$$r_{pbi} = \frac{2.99}{7.63}\sqrt{4}$$

r_{pbi}= 0.39 x 2 = 0.78

Item 4

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

$$r_{pbi} = \frac{23.47-20.48}{7.63}\sqrt{\frac{0.8}{0.2}}$$

$$r_{pbi} = \frac{2.99}{7.63}\sqrt{4}$$

r_{pbi}= 0.39 x 2 = 0.78

Item 5

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

$$r_{pbi} = \frac{22.28-20.48}{7.63}\sqrt{\frac{0.8}{0.2}}$$

$$r_{pbi} = \frac{1.8}{7.63}\sqrt{4}$$

r_{pbi}= 0.236x 2 = 0.47

Item 6

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

$$r_{pbi} = \frac{22.66-20.48}{7.63}\sqrt{\frac{0.8}{0.2}}$$

$$r_{pbi} = \frac{2.18}{7.63}\sqrt{4}$$

r_{pbi}= 0.28x 2 = 0.56

Item 7

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

$$r_{pbi} = \frac{22.41-20.48}{7.63}\sqrt{\frac{0.5}{0.5}}$$

$$r_{pbi} = \frac{1.93}{7.63}\sqrt{0}$$

r_{pbi}= 0.25x 1 = 0.25

Item 8

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

$$r_{pbi} = \frac{21.88-20.48}{7.63}\sqrt{\frac{0.7}{0.3}}$$

$$r_{pbi} = \frac{1.4}{7.63}\sqrt{2.3}$$

r_{pbi}= 0.18x 1.52 = 0.27

Item 9

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

$$r_{pbi} = \frac{21.88-20.48}{7.63}\sqrt{\frac{0.7}{0.3}}$$

$$r_{pbi} = \frac{1.4}{7.63}\sqrt{2.3}$$

r_{pbi}= 0.18x 1.52 = 0.27

Item 10

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

$rr_{pbi} = \frac{21.88-20.48}{7.63}\sqrt{\frac{0.4}{0.6}}$

$r_{pbi} = \frac{1.4}{7.63}\sqrt{0.66}$

r_{pbi}= 0.18x0.81 = 0.14

Item 11

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

$r_{pbi} = \frac{22.66-20.48}{7.63}\sqrt{\frac{0.8}{0.2}}$

$r_{pbi} = \frac{2.18}{7.63}\sqrt{4}$

r_{pbi}= 0.28x 2 = 0.56

Item 12

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

$r_{pbi} = \frac{24.7-20.48}{7.63}\sqrt{\frac{0.7}{0.3}}$

$r_{pbi} = \frac{4.22}{7.63}\sqrt{2.3}$

r_{pbi}= 0.55 x 1.52 = 0.83

Item 13

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

$r_{pbi} = \frac{25.26-20.48}{7.63}\sqrt{\frac{0.6}{0.4}}$

$r_{pbi} = \frac{4.78}{7.63}\sqrt{1.5}$

r_{pbi}= 0.62 x 1.22 = 0.75

Item 14

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

$r_{pbi} = \frac{23.47-20.48}{7.63}\sqrt{\frac{0.8}{0.2}}$

$r_{pbi} = \frac{2.99}{7.63}\sqrt{4}$

r_{pbi}= 0.39 x 2 = 0.78

Item 15

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

$r_{pbi} = \frac{25.26-20.48}{7.63}\sqrt{\frac{0.6}{0.4}}$

$r_{pbi} = \frac{4.78}{7.63}\sqrt{1.5}$

r_{pbi}= 0.62 x 1.22 = 0.75

Item 16

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

$r_{pbi} = \frac{25.26-20.48}{7.63}\sqrt{\frac{0.6}{0.4}}$

$r_{pbi} = \frac{4.78}{7.63}\sqrt{1.5}$

r_{pbi}= 0.62 x 1.22 = 0.75

Item 17

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

$r_{pbi} = \frac{22.95-20.48}{7.63}\sqrt{\frac{0.8}{0.2}}$

$r_{pbi} = \frac{2.47}{7.63}\sqrt{4}$

r_{pbi}= 0.32 x 2 = 0.64

Item 18

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

$r_{pbi} = \frac{23.47-20.48}{7.63}\sqrt{\frac{0.8}{0.2}}$

$r_{pbi} = \frac{2.99}{7.63}\sqrt{4}$

r_{pbi}= 0.39 x 2 = 0.78

Item 19

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

$r_{pbi} = \frac{22.66-20.48}{7.63}\sqrt{\frac{0.8}{0.2}}$

$r_{pbi} = \frac{2.18}{7.63}\sqrt{4}$

r_{pbi}= 0.28x 2 = 0.56

Item 20

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

$r_{pbi} = \frac{23.44-20.48}{7.63}\sqrt{\frac{0.7}{0.3}}$

$r_{pbi} = \frac{2.96}{7.63}\sqrt{2.3}$

r_{pbi}= 0.38x 1.52 = 0.57

Item 21

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

$r_{pbi} = \frac{22.66-20.48}{7.63}\sqrt{\frac{0.8}{0.2}}$

$r_{pbi} = \frac{2.18}{7.63}\sqrt{4}$

r_{pbi}= 0.28x 2 = 0.57

Item 22

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

$r_{pbi} = \frac{22.95-20.48}{7.63}\sqrt{\frac{0.8}{0.2}}$

$r_{pbi} = \frac{2.47}{7.63}\sqrt{4}$

r_{pbi}= 0.32 x 2 = 0.64

Item 23

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

$r_{pbi} = \frac{23.14-20.48}{7.63}\sqrt{\frac{0.3}{0.7}}$

$r_{pbi} = \frac{2.66}{7.63}\sqrt{0.42}$

r_{pbi}= 0.34 x 0.6 = 0.2

Item 24

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

$r_{pbi} = \frac{23.14-20.48}{7.63}\sqrt{\frac{0.3}{0.7}}$

$r_{pbi} = \frac{2.66}{7.63}\sqrt{0.42}$

r_{pbi}= 0.34 x 0.6 = 0.2

Item 25

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

$r_{pbi} = \frac{21.42-20.48}{7.63}\sqrt{\frac{0.8}{0.2}}$

$r_{pbi} = \frac{0.94}{7.63}\sqrt{4}$

r_{pbi}= 0.12x 2 = 0.24

Item 26

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

$r_{pbi} = \frac{25.26-20.48}{7.63}\sqrt{\frac{0.6}{0.4}}$

$r_{pbi} = \frac{4.78}{7.63}\sqrt{1.5}$

r_{pbi}= 0.62 x 1.22 = 0.75

Item 27

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

$r_{pbi} = \frac{22-20.48}{7.63}\sqrt{\frac{0.9}{0.1}}$

$r_{pbi} = \frac{1.52}{7.63}\sqrt{9}$

r_{pbi}= 0.199 x 3 = 0.59

Item 28

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

$r_{pbi} = \frac{24.7-20.48}{7.63}\sqrt{\frac{0.7}{0.3}}$

$r_{pbi} = \frac{4.22}{7.63}\sqrt{2.3}$

r_{pbi}= 0.55 x 1.52 = 0.83

Item 29

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

$r_{pbi} = \frac{24.7-20.48}{7.63}\sqrt{\frac{0.7}{0.3}}$

$r_{pbi} = \frac{4.22}{7.63}\sqrt{2.3}$

r_{pbi}= 0.55 x 1.52 = 0.83

Item 30

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

$r_{pbi} = \frac{25.26-20.48}{7.63}\sqrt{\frac{0.6}{0.4}}$

$r_{pbi} = \frac{4.78}{7.63}\sqrt{1.5}$

r_{pbi}= 0.62 x 1.22 = 0.75

Appendix 9

Table Validity of Pre-test

No	M_p	M_t	SD_t	P	Q	$r_{pbi}=\frac{M_p-M_t}{SD_t}\sqrt{\frac{p}{q}}$	r_t on 5% significant	Interpretation
1.	24.7	20.48	7.63	0.7	0.3	0.83	0.396	Valid
2.	24.7	20.48	7.63	0.7	0.3	0.83	0.396	Valid
3.	23.47	20.48	7.63	0.8	0.2	0.78	0.396	Valid
4.	23.47	20.48	7.63	0.8	0.2	0.78	0.396	Valid
5.	22.28	20.48	7.63	0.8	0.2	0.47	0.396	Valid
6.	22.66	20.48	7.63	0.8	0.2	0.56	0.396	Valid
7.	22.41	20.48	7.63	0.8	0.2	0.25	0.396	Invalid
8.	21.88	20.48	7.63	0.7	0.3	0.27	0.396	Invalid
9.	21.88	20.48	7.63	0.7	0.3	0.27	0.396	Invalid
10.	21.88	20.48	7.63	0.4	0.6	0.14	0.396	Invalid
11.	22.66	20.48	7.63	0.8	0.2	0.56	0.396	Valid
12.	24.7	20.48	7.63	0.7	0.3	0.83	0.396	Valid
13.	25.26	20.48	7.63	0.6	0.4	0.75	0.396	Valid
14.	23.47	20.48	7.63	0.8	0.2	0.78	0.396	Valid
15.	25.26	20.48	7.63	0.6	0.4	0.75	0.396	Valid
16.	25.26	20.48	7.63	0.6	0.4	0.75	0.396	Valid
17.	22.95	20.48	7.63	0.8	0.2	0.64	0.396	Valid
18.	23.47	20.48	7.63	0.8	0.2	0.78	0.396	Valid
19.	22.66	20.48	7.63	0.8	0.2	0.56	0.396	Valid
20.	23.44	20.48	7.63	0.7	0.3	0.57	0.396	Valid
21.	22.66	20.48	7.63	0.8	0.2	0.57	0.396	Valid

22.	22.95	20.48	7.63	0.8	0.2	0.64	0.396	Valid
23.	23.14	20.48	7.63	0.3	0.7	0.2	0.396	Invalid
24.	23.14	20.48	7.63	0.3	0.7	0.2	0.396	Invalid
25.	21.42	20.48	7.63	0.8	0.2	0.24	0.396	Invalid
26.	25.26	20.48	7.63	0.6	0.4	0.75	0.396	Valid
27.	22	20.48	7.63	0.9	0.1	0.59	0.396	Valid
28.	24.7	20.48	7.63	0.7	0.3	0.83	0.396	Valid
29.	24.7	20.48	7.63	0.7	0.3	0.83	0.396	Valid
30.	25.26	20.48	7.63	0.6	0.4	0.75	0.396	Valid

Appendix 11

Reliability of Pre Test

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

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

N= 25

$\sum Xt = 512$

$\sum Xt^2 = 11942$

$\sum pq = 5.76$

$$S_t^2 = \sum Xt^2 - \left(\frac{\sum xt}{N}\right)^2$$

$$= 11942 - \left(\frac{512}{25}\right)^2 = 11942 - 20.48^2 = 11942 - 419.4304 = 11525.5696$$

$$S_t^2 = \frac{\sum Xt2}{N} = \frac{11525.5696}{25}$$

$$S_t^2 = 460.90$$

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

$$R_{11} = \left(\frac{25}{25-1}\right)\left(\frac{460.90-5.76}{460.90}\right) = \left(\frac{25}{24}\right)\left(\frac{455.14}{460.90}\right)$$

= (1.04) (0. 99)
= 1.03 (r_{11} > 0.70 = reliable)

Calculation of Post-Test

4. Mean score from score total (M_t)

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

$$M_t = \frac{656}{25} = 26.24$$

5. Standard Deviation (SD_t)

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

$$SD_t = \sqrt{\frac{17796}{25} - \left(\frac{656}{25}\right)^2}$$

$$SD_t = \sqrt{711.84 - 26.24^2}$$

$$SD_t = \sqrt{711.84 - 688.53}$$

$$SD_t = \sqrt{23.31} = 4.82$$

6. Mean Score (M_p)

Item 1

$$M_{pl} = \frac{totalscoreofstudents'scorethattrueitemanswer}{n1}$$

$$M_{pl} = \frac{29+29+29+30+30+19+30+30+30+30+29+24+21+30+30+30+29+28+25}{19}$$

$$M_{pl} = \frac{532}{19} = 28$$

Item 2

$$M_{pl} = \frac{totalscoreofstudents'scorethattrueitemanswer}{n1}$$

$$M_{pl} = \frac{13+29+29+29+30+30+21+30+30+20+30+30+27+29+24+21+30+30+30+29+26+28+25}{23}$$

$$M_{pl} = \frac{620}{23} = 26.95$$

Item 3

$$M_{pl} = \frac{totalscoreofstudents'scorethattrueitemanswer}{n1}$$

$$M_{pl} = \frac{29+29+29+30+30+19+21+30+30+20+30+30+27+29+24+21+30+30+30+29+26+28+25}{23}$$

$$M_{pl} = \frac{626}{23} = 27.21$$

Item 4

$$M_{pl} = \frac{totalscoreofstudents'scorethattrueitemanswer}{n1}$$

$$M_{pl} = \frac{29+29+29+30+30+19+21+30+30+20+30+30+27+29+24+21+30+30+30+29+26+28+25}{23}$$

$$M_{pl} = \frac{626}{23} = 27.21$$

Item 5

$$M_{pl} = \frac{totalscoreofstudents'scorethattrueitemanswer}{n1}$$

$$M_{pl} = \frac{13+29+29+29+30+30+21+30+30+20+30+30+27+29+24+21+30+30+30+29+26+28+25}{23}$$

$$M_{pl} = \frac{620}{23} = 26.95$$

Item 6

$$M_{pl} = \frac{totalscoreofstudents'scorethattrueitemanswer}{n1}$$

$$M_{pl} = \frac{29+17+29+29+30+30+30+30+30+30+27+29+24+30+30+30+29+26+28+25}{20}$$

$$M_{pl} = \frac{562}{20} = 28.1$$

Item 7

$$M_{pl} = \frac{totalscoreofstudents'scorethattrueitemanswer}{n1}$$

$$M_{pl} = \frac{29+17+29+29+30+30+19+21+30+30+30+30+27+29+24+21+30+30+30+29+26+28+25}{23}$$

$$M_{pl} = \frac{623}{23} = 27.08$$

Item 8

$$M_{pl} = \frac{totalscoreofstudents'scorethattrueitemanswer}{n1}$$

$$M_{pl} = \frac{29+17+29+29+30+30+19+21+30+30+20+30+30+27+29+24+30+30+30+29+26+28+25}{23}$$

$$M_{pl} = \frac{622}{23} = 27.04$$

Item 9

$$M_{pl} = \frac{totalscoreofstudents'scorethattrueitemanswer}{n1}$$

$$M_{pl} = \frac{29+17+29+29+30+30+19+21+30+30+20+30+30+27+29+24+30+30+30+29+26+28+25}{23}$$

$$M_{pl} = \frac{622}{23} = 27.04$$

Item 10

$$M_{pl} = \frac{totalscoreofstudents'scorethattrueitemanswer}{n1}$$

$$M_{pl} = \frac{29+29+29+30+30+19+21+30+30+20+30+30+27+29+24+21+30+30+30+29+26+28+25}{23}$$

$$M_{pl} = \frac{626}{23} = 27.21$$

Item 11

$$M_{pl} = \frac{total\,score\,of\,students'\,score\,that\,true\,item\,answer}{n1}$$

$$M_{pl} = \frac{29+17+29+29+30+30+30+30+30+30+27+29+24+30+30+30+29+26+28+25}{20}$$

$$M_{pl} = \frac{562}{20} = 28.1$$

Item 12

$$M_{pl} = \frac{total\,score\,of\,students'\,score\,that\,true\,item\,answer}{n1}$$

$$M_{pl} = \frac{29+17+29+29+30+30+19+21+30+30+20+30+30+27+29+24+30+30+30+29+26+28+25}{23}$$

$$M_{pl} = \frac{622}{23} = 27.04$$

Item 13

$$M_{pl} = \frac{total\,score\,of\,students'\,score\,that\,true\,item\,answer}{n1}$$

$$M_{pl} = \frac{29+29+29+30+30+19+21+30+30+20+30+30+27+29+24+21+30+30+30+29+26+28+25}{23}$$

$$M_{pl} = \frac{626}{23} = 27.21$$

Item 14

$$M_{pl} = \frac{total\,score\,of\,students'\,score\,that\,true\,item\,answer}{n1}$$

$$M_{pl} = \frac{13+29+17+29+30+30+19+21+30+30+30+30+27+29+21+30+30+30+29+26+28+25}{23}$$

$$M_{pl} = \frac{603}{23} = 26.21$$

Item 15

$$M_{pl} = \frac{total\,score\,of\,students'\,score\,that\,true\,item\,answer}{n1}$$

$$M_{pl} = \frac{13+29+17+29+29+30+30+19+21+30+30+20+30+30+27+29+21+30+30+30+29+26+28}{23}$$

$$M_{pl} = \frac{607}{23} = 26.39$$

Item 16

$$M_{pl} = \frac{total\,score\,of\,students'\,score\,that\,true\,item\,answer}{n1}$$

$$M_{pl} = \frac{13+29+17+29+29+30+30+19+21+30+30+20+30+30+27+29+21+30+30+30+29+26+28}{23}$$

$$M_{pl} = \frac{607}{23} = 26.39$$

Item 17

$$M_{pl} = \frac{total\,score\,of\,students'\,score\,that\,true\,item\,answer}{n1}$$

$$M_{pl} = \frac{13+29+30+30+30+19+21+30+30+20+30+30+27+29+24+21+30+30+30+28}{19}$$

$$M_{pl} = \frac{501}{19} = 26.36$$

Item 18

$$M_{pl} = \frac{totalscoreofstudents'scorethattrueitemanswer}{n1}$$

$$M_{pl} = \frac{13+29+17+29+29+30+30+19+21+30+30+20+30+30+27+29+21+30+30+30+29+26+25}{23}$$

$$M_{pl} = \frac{604}{23} = 26.26$$

Item 19

$$M_{pl} = \frac{totalscoreofstudents'scorethattrueitemanswer}{n1}$$

$$M_{pl} = \frac{29+17+29+29+30+30+30+30+30+30+27+29+24+30+30+30+29+26+28+25}{20}$$

$$M_{pl} = \frac{562}{20} = 28.$$

Item 20

$$M_{pl} = \frac{totalscoreofstudents'scorethattrueitemanswer}{n1}$$

$$M_{pl} = \frac{29+17+29+29+30+30+30+30+30+30+27+29+24+30+30+30+29+26+28+25}{20}$$

$$M_{pl} = \frac{562}{20} = 28.1$$

Item 21

$$M_{pl} = \frac{totalscoreofstudents'scorethattrueitemanswer}{n1}$$

$$M_{pl} = \frac{29+17+29+29+30+30+30+30+30+30+27+29+24+30+30+30+29+26+28+25}{20}$$

$$M_{pl} = \frac{562}{20} = 28.1$$

Item 22

$$M_{pl} = \frac{totalscoreofstudents'scorethattrueitemanswer}{n1}$$

$$M_{pl} = \frac{29+17+29+29+30+30+30+30+30+30+27+29+24+30+30+30+29+26+28+25}{20}$$

$$M_{pl} = \frac{562}{20} = 28.1$$

Item 23

$$M_{pl} = \frac{totalscoreofstudents'scorethattrueitemanswer}{n1}$$

$$M_{pl} = \frac{13+29+29+29+30+30+21+30+30+20+30+30+27+29+24+21+30+30+30+29+26+28+25}{23}$$

$$M_{pl} = \frac{620}{23} = 26.95$$

Item 24

$$M_{pl} = \frac{totalscoreofstudents'scorethattrueitemanswer}{n1}$$

$$M_{pl} = \frac{29+29+29+30+30+19+30+30+30+30+29+24+21+30+30+30+29+28+25}{19}$$

$$M_{pl} = \frac{532}{19} = 28$$

Item 25

$$M_{pl} = \frac{total\,score\,of\,students'\,score\,that\,true\,item\,answer}{n1}$$

$$M_{pl} = \frac{29+29+29+30+30+19+30+30+30+30+29+24+21+30+30+30+29+28+25}{19}$$

$$M_{pl} = \frac{532}{19} = 28$$

Item 26

$$M_{pl} = \frac{total\,score\,of\,students'\,score\,that\,true\,item\,answer}{n1}$$

$$M_{pl} = \frac{13+29+29+29+30+30+21+30+30+20+30+30+27+29+24+21+30+30+30+29+26+28+25}{23}$$

$$M_{pl} = \frac{620}{23} = 26.95$$

Item 27

$$M_{pl} = \frac{total\,score\,of\,students'\,score\,that\,true\,item\,answer}{n1}$$

$$M_{pl} = \frac{13+29+29+29+30+30+21+30+30+20+30+30+27+29+24+21+30+30+30+29+26+28+25}{23}$$

$$M_{pl} = \frac{620}{23} = 26.95$$

Item 28

$$M_{pl} = \frac{total\,score\,of\,students'\,score\,that\,true\,item\,answer}{n1}$$

$$M_{pl} = \frac{13+29+17+29+29+30+30+19+21+30+30+20+30+30+27+24+21+30+30+30+29+26+25}{23}$$

$$M_{pl} = \frac{599}{23} = 26.04$$

Item 29

$$M_{pl} = \frac{total\,score\,of\,students'\,score\,that\,true\,item\,answer}{n1}$$

$$M_{pl} = \frac{13+29+17+29+29+30+30+19+21+30+30+20+30+30+27+29+21+30+30+30+29+26+28}{23}$$

$$M_{pl} = \frac{607}{23} = 26.39$$

Item 30

$$M_{pl} = \frac{total\,score\,of\,students'\,score\,that\,true\,item\,answer}{n1}$$

$$M_{pl} = \frac{13+29+17+29+29+30+30+19+21+30+30+20+30+30+27+29+21+30+30+30+29+26+28}{23}$$

$$M_{pl} = \frac{607}{23} = 26.39$$

Calculation of the formulation $r_{pbi} = \frac{M_{p-M_t}}{SD_t}\sqrt{\frac{p}{q}}$

Item 1

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

$r_{pbi} = \frac{28-26.24}{4.82}\sqrt{\frac{0.8}{0.2}}$

$r_{pbi} = \frac{1.76}{4.82}\sqrt{4}$

r_{pbi}= 0.36 x 2 = 0.72

Item 2

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

$r_{pbi} = \frac{26.95-26.24}{4.82}\sqrt{\frac{0.9}{0.1}}$

$r_{pbi} = \frac{0.71}{4.82}\sqrt{9}$

r_{pbi}= 0.147 x 3 = 0.44

Item 3

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

$r_{pbi} = \frac{27.21-26.24}{4.82}\sqrt{\frac{0.9}{0.1}}$

$r_{pbi} = \frac{0.97}{4.82}\sqrt{9}$

r_{pbi}= 0.20 x 3 = 0.6

Item 4

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

$r_{pbi} = \frac{27.21-26.24}{4.82}\sqrt{\frac{0.9}{0.1}}$

$r_{pbi} = \frac{0.97}{4.82}\sqrt{9}$

r_{pbi}= 0.20 x 3 = 0.6

Item 5

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

$r_{pbi} = \frac{26.95-26.24}{4.82}\sqrt{\frac{0.9}{0.1}}$

$r_{pbi} = \frac{0.71}{4.82}\sqrt{9}$

r_{pbi}= 0.147 x 3 = 0.44

Item 6

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

$r_{pbi} = \frac{28.1-26.24}{4.82}\sqrt{\frac{0.8}{0.2}}$

$r_{pbi} = \frac{1.86}{4.82}\sqrt{4}$

r_{pbi}= 0.38 x 2 = 0.76

Item 7

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

$r_{pbi} = \frac{27.08-26.24}{4.82}\sqrt{\frac{0.9}{0.1}}$

$r_{pbi} = \frac{0.84}{4.82}\sqrt{9}$

r_{pbi}= 0.17 x 3 = 0.51

Item 8

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

$r_{pbi} = \frac{27.04-26.24}{4.82}\sqrt{\frac{0.9}{0.1}}$

$r_{pbi} = \frac{0.8}{4.82}\sqrt{9}$

r_{pbi}= 0.165 x 3 = 0.49

Item 9

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

$r_{pbi} = \frac{27.04-26.24}{4.82}\sqrt{\frac{0.9}{0.1}}$

$r_{pbi} = \frac{0.8}{4.82}\sqrt{9}$

r_{pbi}= 0.165 x 3 = 0.49

Item 10

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

$r_{pbi} = \frac{27.21-26.24}{4.82}\sqrt{\frac{0.9}{0.1}}$

$r_{pbi} = \frac{0.97}{4.82}\sqrt{9}$

r_{pbi}= 0.20 x 3 = 0.6

Item 11

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

$r_{pbi} = \frac{28.1-26.24}{4.82}\sqrt{\frac{0.8}{0.2}}$

$r_{pbi} = \frac{1.86}{4.82}\sqrt{4}$

r_{pbi}= 0.38 x 2 = 0.76

Item 12

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

$r_{pbi} = \frac{27.04-26.24}{4.82}\sqrt{\frac{0.9}{0.1}}$

$r_{pbi} = \frac{0.8}{4.82}\sqrt{9}$

r_{pbi}= 0.165 x 3 = 0.49

Item 13

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

$r_{pbi} = \frac{27.21-26.24}{4.82}\sqrt{\frac{0.9}{0.1}}$

$r_{pbi} = \frac{0.97}{4.82}\sqrt{9}$

r_{pbi}= 0.20 x 3 = 0.6

Item 14

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

$r_{pbi} = \frac{26.21-26.24}{4.82}\sqrt{\frac{0.9}{0.1}}$

$r_{pbi} = \frac{-0.03}{4.82}\sqrt{9}$

r_{pbi}= -0 x 3 = -0

Item 15

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

$r_{pbi} = \frac{26.39-26.24}{4.82}\sqrt{\frac{0.9}{0.1}}$

$r_{pbi} = \frac{0.15}{4.82}\sqrt{9}$

r_{pbi}= 0.03x 3= 0.09

Item 16

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

$r_{pbi} = \frac{26.39-26.24}{4.82}\sqrt{\frac{0.9}{0.1}}$

$r_{pbi} = \frac{0.15}{4.82}\sqrt{9}$

r_{pbi}= 0.03x 3 = 0.09

Item 17

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

$r_{pbi} = \frac{26.36-26.24}{4.82}\sqrt{\frac{0.8}{0.2}}$

$r_{pbi} = \frac{0.12}{4.82}\sqrt{4}$

r_{pbi}= 0.02x 2 = 0.04

Item 18

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

$r_{pbi} = \frac{26.26-26.24}{4.82}\sqrt{\frac{0.9}{0.1}}$

$r_{pbi} = \frac{0.02}{4.82}\sqrt{9}$

r_{pbi}= 0.004x 3 = 0.012

Item 19

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

$r_{pbi} = \frac{28.1-26.24}{4.82}\sqrt{\frac{0.8}{0.2}}$

$r_{pbi} = \frac{1.86}{4.82}\sqrt{4}$

r_{pbi}= 0.38 x 2 = 0.76

Item 20

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

$r_{pbi} = \frac{28.1-26.24}{4.82}\sqrt{\frac{0.8}{0.2}}$

$r_{pbi} = \frac{1.86}{4.82}\sqrt{4}$

r_{pbi}= 0.38 x 2 = 0.76

Item 21

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

$r_{pbi} = \frac{28.1-26.24}{4.82}\sqrt{\frac{0.8}{0.2}}$

$r_{pbi} = \frac{1.86}{4.82}\sqrt{4}$

r_{pbi}= 0.38 x 2 = 0.76

Item 22

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

$r_{pbi} = \frac{28.1-26.24}{4.82}\sqrt{\frac{0.8}{0.2}}$

$r_{pbi} = \frac{1.86}{4.82}\sqrt{4}$

r_{pbi}= 0.38 x 2 = 0.76

Item 23

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

$r_{pbi} = \frac{26.95-26.24}{4.82}\sqrt{\frac{0.9}{0.1}}$

$r_{pbi} = \frac{0.71}{4.82}\sqrt{9}$

r_{pbi}= 0.147 x 3 = 0.44

Item 24

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

$r_{pbi} = \frac{28-26.24}{4.82}\sqrt{\frac{0.8}{0.2}}$

$r_{pbi} = \frac{1.76}{4.82}\sqrt{4}$

r_{pbi}= 0.36 x 2 = 0.72

Item 25

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

$r_{pbi} = \frac{28-26.24}{4.82}\sqrt{\frac{0.8}{0.2}}$

$r_{pbi} = \frac{1.76}{4.82}\sqrt{4}$

r_{pbi}= 0.36 x 2 = 0.72

Item 26

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

$r_{pbi} = \frac{26.95-26.24}{4.82}\sqrt{\frac{0.9}{0.1}}$

$r_{pbi} = \frac{0.71}{4.82}\sqrt{9}$

r_{pbi}= 0.147 x 3 = 0.44

Item 27

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

$r_{pbi} = \frac{26.95-26.24}{4.82}\sqrt{\frac{0.9}{0.1}}$

$r_{pbi} = \frac{0.71}{4.82}\sqrt{9}$

r_{pbi}= 0.147 x 3 = 0.44

Item 28

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

$r_{pbi} = \frac{26.04-26.24}{4.82}\sqrt{\frac{0.9}{0.1}}$

$r_{pbi} = \frac{-0.2}{4.82}\sqrt{9}$

r_{pbi}= -0.04 x 3 = -0.12

Item 29

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

$r_{pbi} = \frac{26.39-26.24}{4.82}\sqrt{\frac{0.9}{0.1}}$

$r_{pbi} = \frac{0.15}{4.82}\sqrt{9}$

r_{pbi}= 0.03x 3 = 0.09

Item 30

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

$r_{pbi} = \frac{26.39-26.24}{4.82}\sqrt{\frac{0.9}{0.1}}$

$r_{pbi} = \frac{0.15}{4.82}\sqrt{9}$

r_{pbi}= 0.03x 3 = 0.09

Appendix 13

Table Validity of Post-test

No	M_p	M_t	SD_t	P	Q	$r_{pbi}=\frac{M_p-M_t}{SD_t}\sqrt{\frac{p}{q}}$	$r_t$on 5% significant	Interpretation
1.	28	26.24	4.82	0.8	0.2	0.72	0.396	Valid
2.	26.95	26.24	4.82	0.9	0.1	0.44	0.396	Valid
3.	27.21	26.24	4.82	0.9	0.1	0.60	0.396	Valid
4.	27.21	26.24	4.82	0.9	0.1	0.60	0.396	Valid
5.	26.95	26.24	4.82	0.9	0.1	0.44	0.396	Valid
6.	28.1	26.24	4.82	0.8	0.2	0.76	0.396	Valid
7.	27.08	26.24	4.82	0.9	0.1	0.51	0.396	Valid
8.	27.04	26.24	4.82	0.9	0.1	0.49	0.396	Valid
9.	27.04	26.24	4.82	0.9	0.1	0.49	0.396	valid
10.	27.21	26.24	4.82	0.9	0.1	0.60	0.396	Valid
11.	28.1	26.24	4.82	0.8	0.2	0.76	0.396	Valid
12.	27.04	26.24	4.82	0.9	0.1	0.49	0.396	Valid
13.	27.21	26.24	4.82	0.9	0.1	0.60	0.396	Valid
14.	26.21	26.24	4.82	0.9	0.1	-0	0.396	Invalid
15.	26.39	26.24	4.82	0.9	0.1	0.09	0.396	Invalid
16.	26.39	26.24	4.82	0.9	0.1	0.09	0.396	Invalid
17.	26.36	26.24	4.82	0.8	0.2	0.04	0.396	Invalid
18.	26.26	26.24	4.82	0.9	0.1	0.01	0.396	Invalid
19.	28.1	26.24	4.82	0.8	0.2	0.76	0.396	Valid
20.	28.1	26.24	4.82	0.8	0.2	0.76	0.396	Valid
21.	28.1	26.24	4.82	0.8	0.2	0.76	0.396	Valid
22.	28.1	26.24	4.82	0.8	0.2	0.76	0.396	Valid
23.	26.95	26.24	4.82	0.9	0.1	0.44	0.396	Valid
24.	28	26.24	4.82	0.8	0.2	0.72	0.396	Valid
25.	28	26.24	4.82	0.8	0.2	0.72	0.396	Valid
26.	26.95	26.24	4.82	0.9	0.1	0.44	0.396	Valid
27.	26.95	26.24	4.82	0.9	0.1	0.44	0.396	Valid
28.	26.04	26.24	4.82	0.9	0.1	-0.12	0.396	Invalid
29.	26.39	26.24	4.82	0.9	0.1	0.09	0.396	Invalid
30.	26.39	26.24	4.82	0.9	0.1	0.09	0.396	Invalid

Appendix 15

Reliability of Post Test

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

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

N= 25

$\sum Xt = 656$

$\sum Xt^2 = 17796$

$\sum pq = 3.162$

$$S_t^2 = \sum Xt^2 - \left(\frac{\sum xt}{N}\right)^2$$

$$= 17796 - \left(\frac{656}{25}\right)^2 = 17796 - 26.24^2 = 17796 - 688.53 = 17107.47$$

$$S_t^2 = \frac{\sum Xt2}{N} = \frac{17107.47}{25}$$

$S_t^2 = 684.29$

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

$$R_{11} = \left(\frac{25}{25-1}\right)\left(\frac{684.29 - 3.16}{684.29}\right) = \left(\frac{25}{24}\right)\left(\frac{681.13}{684.29}\right)$$

= (1.04) (0. 99)
= 1.03 (r_{11} > 0.70 = reliable)

Appendix 16

Score of Control Class and Experimental Class
Pre Test

a. Pre Test Score of Experimental Class

No	The Name of Students (n)	Pre Test
1	Ahmad Ardiansyah	50
2	Akhsad Maulana	85
3	AlweynaWandhasya	60
4	Anita Rizy Hsb	40
5	Rohid Afandi	85
6	Aswad Kurniawan	55
7	Choirun Nisya hsb	35
8	Daniel Masihot Cristian	35
9	Dini Pasaribu	30
10	Efraim Simorangkir	80
11	Ester naprilia Sitorus	40
12	Fahmi Alfarizy	45
13	Feby Nada Handira	70
14	Ryanda Rahma Dana	60
15	Hatiaro Gulo	50
16	Herawati Farasi	80
17	Joginar Kartini	85
18	Karisa Angggina	60
19	Laila Mardiah srg	70
20	Maidi Syaputra	65
21	Martina Waruwu	55
22	Muhammad Syahrul	60
23	Muhammad Ian Sofyan	65
24	Mutiara Surya Tanjung	35
25	Nico tantowi Sitorus	65
26	Nurjannah Nst	65
27	Pebiola Tampubolon	55
28	Rahmad Soleh Nst	65
29	Rahmad Hidayat	65
Total		**1710**

b. Pre Test Score of Control Class

No	The Name of Students (n)	Pre-Test
1	Muhammad Ridwan	80
2	Reynaldi Widaya	30
3	Nursanti Hasanah	60
4	Windy Azizah	70
5	Najamuddn Hsb	60
6	Salwa	40
7	Iwan Wahyudi Hrp	55
8	Juliadi Ardiansyah	65
9	Armansyah	50
10	Ahmad Hidayat lbs	65
11	Anggi Azhari	50
12	Diah Azhara Srg	55
13	Yogi Anwar	45
14	Sholahuddin al-rido	65
15	Dodi Srg	75
16	Rahmadani Srg	70
17	Anwar Adli	55
18	Yeni Aprida Yanti Nst	55
19	Saulina Sahara Srg	55
20	Syahrif Hidayat	85
21	Azwar Aryadi Lbs	45
22	Adit Ramadi	40
23	Rinika Hrhp	50
24	Rina Hrp	75
25	Safriani Rangkuti	80
26	Sellvi Damayanti	60
27	Veni Oktaviani	80
28	Anhaj Miannur	70
29	RickyErawadi	50
Total		**1735**

Appendix 17

Score of Control Class and Experiment Class
Post Test

a. Score of Experimental Class

No	The Name of Students (n)	Post Test
1	Ahmad Ardiansyah	80
2	Akhsad Maulana	75
3	AlweynaWandhasya	75
4	Anita Rizy Hsb	90
5	Rohid Afandi	85
6	Aswad Kurniawan	80
7	Choirun Nisya hsb	75
8	Daniel Masihot Cristian	60
9	Dini Pasaribu	90
10	Efraim Simorangkir	65
11	Ester naprilia Sitorus	80
12	Fahmi Alfarizy	65
13	Feby Nada Handira	85
14	Ryanda Rahma Dana	80
15	Hatiaro Gulo	70
16	Herawati Farasi	75
17	Joginar Kartini	80
18	Karisa Angggina	90
19	Laila Mardiah srg	85
20	Maidi Syaputra	85
21	Martina Waruwu	75
22	Muhammad Syahrul	80
23	Muhammad Ian Sofyan	85
24	Mutiara Surya Tanjung	80
25	Nico tantowi Sitorus	65
26	Nurjannah Nst	70
27	Pebiola Tampubolon	70
28	Rahmad Soleh Nst	80
29	Rahmad Hidayat	85
Total		2260

b. Post Test Score of Control Class

No	The Name of Students (n)	Post-Test
1	Muhammad Ridwan	80
2	Reynaldi Widaya	60
3	Nursanti Hasanah	60
4	Windy Azizah	65
5	Najamuddn Hsb	80
6	Salwa	75
7	Iwan Wahyudi Hrp	80
8	Juliadi Ardiansyah	65
9	Armansyah	65
10	Ahmad Hidayat lbs	80
11	Anggi Azhari	80
12	Diah Azhara Srg	85
13	Yogi Anwar	80
14	Sholahuddin al-rido	70
15	Dodi Srg	80
16	Rahmadani Srg	80
17	Anwar Adli	80
18	Yeni Aprida Yanti Nst	80
19	Saulina Sahara Srg	75
20	Syahrif Hidayat	75
21	Azwar Aryadi Lbs	55
22	Adit Ramadi	65
23	Rinika Hrhp	80
24	Rina Hrp	85
25	Safriani Rangkuti	85
26	Sellvi Damayanti	85
27	Veni Oktaviani	85
28	Anhaj Miannur	90
29	RickyErawadi	80
Total		**220 5**

Appendix 18

The Comparison of Pre Test and Post Test

a. Control Class

No	The Name of Students (n)	Pre Test	Post Test
1	Muhammad Ridwan	80	80
2	Reynaldi Widaya	30	60
3	Nursanti Hasanah	60	60
4	Windy Azizah	70	65
5	Najamuddn Hsb	60	80
6	Salwa	40	75
7	Iwan Wahyudi Hrp	55	80
8	Juliadi Ardiansyah	65	65
9	Armansyah	50	65
10	Ahmad Hidayat lbs	65	80
11	Anggi Azhari	50	80
12	Diah Azhara Srg	55	85
13	Yogi Anwar	45	80
14	Sholahuddin al-rido	65	70
15	Dodi Srg	75	80
16	Rahmadani Srg	70	80
17	Anwar Adli	55	80
18	Yeni Aprida Yanti Nst	55	80
19	Saulina Sahara Srg	55	75
20	Syahrif Hidayat	85	75
21	Azwar Aryadi Lbs	45	55
22	Adit Ramadi	40	65
23	Rinika Hrhp	50	80
24	Rina Hrp	75	85
25	Safriani Rangkuti	80	85
26	Sellvi Damayanti	60	85
27	Veni Oktaviani	80	85
28	Anhaj Miannur	70	90
29	RickyErawadi	50	80
Total		**1735**	**2205**

b. Experimental Class

No	The Name of Students (n)	Pre-Test	Post-Test
1	Ahmad Ardiansyah	50	80
2	Akhsad Maulana	85	75
3	AlweynaWandhasya	60	75
4	Anita Rizy Hsb	40	90
5	Rohid Afandi	85	85
6	Aswad Kurniawan	55	80
7	Choirun Nisya hsb	35	75
8	Daniel Masihot Cristian	35	60
9	Dini Pasaribu	30	90
10	Efraim Simorangkir	80	65
11	Ester naprilia Sitorus	40	80
12	Fahmi Alfarizy	45	65
13	Feby Nada Handira	70	85
14	Ryanda Rahma Dana	60	80
15	Hatiaro Gulo	50	70
16	Herawati Farasi	80	75
17	Joginar Kartini	85	80
18	Karisa Angggina	60	90
19	Laila Mardiah srg	70	85
20	Maidi Syaputra	65	85
21	Martina Waruwu	55	75
22	Muhammad Syahrul	60	80
23	Muhammad Ian Sofyan	65	85
24	Mutiara Surya Tanjung	35	80
25	Nico tantowi Sitorus	65	65
26	Nurjannah Nst	65	70
27	Pebiola Tampubolon	55	70
28	Rahmad Soleh Nst	65	80
29	Rahmad Hidayat	65	85
Total		**1710**	**2260**

Appendix 19

HOMOGENEITY TEST (PRE-TEST)

Calculation of parameter to get variant of the first class as control class sample 1 and variant of the second class as experimental class sample 2 are used homogeneity test by using formula:

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

Hypotheses:

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

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

A. Variant of the X MIA 5 class is:

NO	Xi	Xi^2
1.	50	2500
2.	85	7225
3.	60	3600
4.	40	1600
5.	85	7225
6.	55	3025
7.	35	1225
8.	35	1225
9.	30	900
10.	80	6400
11.	40	1600
12.	45	2025
13.	70	4900
14.	60	3600
15.	50	2500
16.	80	6400
17.	85	7225
18.	60	3600
19.	70	4900
20.	65	4225
21.	55	3025

22.	60	3600
23.	65	4225
24.	35	1225
25.	65	4225
26.	65	4225
27.	55	3025
28.	65	4225
29.	65	4225
Total	1710	107900

n = 29

$\sum xi$= 1710

$\sum_{Xi}$ 2 = 107900

So:

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

$$= \frac{29(107900) - (1710)^2}{29(29-1)}$$

$$= \frac{3129100 - 2924100}{29(28)}$$

$$= \frac{205000}{812}$$

= 252,46

B. Variant of the X IS 3 class is:

NO	Xi	Xi^2
1.	80	6400
2.	30	900
3.	60	3600
4.	70	4900
5.	60	3600
6.	40	1600
7.	55	3025
8.	65	4225
9.	50	2500
10.	65	4225
11.	50	2500

12.	55	3025
13.	45	2025
14.	65	4225
15.	75	5625
16.	70	4900
17.	55	3025
18.	55	3025
19.	55	3025
20.	85	7225
21.	45	2025
22.	40	1600
23.	50	2500
24.	75	5625
25.	80	6400
26.	60	3600
27.	80	6400
28.	70	4900
29.	50	2500
Total	1735	109125

N = 29
$\sum xi$ = 1735
$\sum_{xi} 2$ = 109125

So:

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

$$= \frac{29\,(109125) - (1735)^2}{29(29-1)}$$

$$= \frac{3164625 - 3010225}{29(28)}$$

$$= \frac{154400}{812}$$

= 190.14

The Formula was used to test the hypothesis was:

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

1. X MIA 5 and X IS 3 :

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

So:

$$F = \frac{252.46}{190.14}$$

$$= 1.32$$

After doing the calculation, researcher found that $F_{count} = 1.32$. It had been compared to F_{table} with α 5% and dk numerator and deminator were same (n_1 and n_2 = 30; dk = 30-1 = 29) (N-K) (K-1) (24) (5). From the distribution list F, researcher found that F_{table} = 2,62 so $F_{count} < F_{table}$ (1.32< 2.62). It could be concluded that there is no difference variant between the X MIA 5 class and X IS 3 class. It means that the variant is homogenous**.**

Appendix 20

HOMOGENEITY TEST (POST-TEST)

Calculation of parameter to get variant of the first class as control class sample 1 and variant of the second class as experimental class sample 2 are used homogeneity test by using formula:

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

Hypotheses:

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

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

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

C. Variant of the X MIA 5 class is:

NO	Xi	Xi^2
1.	80	6400
2.	75	5625
3.	75	5625
4.	90	8100
5.	85	7225
6.	80	6400
7.	75	5625
8.	60	3600
9.	90	8100
10.	65	4225
11.	80	6400
12.	65	4225
13.	85	7225
14.	80	6400
15.	70	4900
16.	75	5625
17.	80	6400
18.	90	8100

19.	85	7225
20.	85	7225
21.	75	5625
22.	80	6400
23.	85	7225
24.	80	6400
25.	65	4225
26.	70	4900
27.	70	4900
28.	80	6400
29.	85	7225
Total	**2260**	**177950**

n = 29

$\sum xi$= 2260

$\sum_{Xi}$ 2 = 177950

So:

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

$$= \frac{29(177950) - (2260)^2}{29(29-1)}$$

$$= \frac{5160550 - 5107600}{29(28)}$$

$$= \frac{52950}{812}$$

= 65.20

D. Variant of the X IS 3 class is:

NO	**Xi**	**Xi^2**
1.	80	6400
2.	60	3600
3.	60	3600
4.	65	4225
5.	80	6400
6.	75	5625
7.	80	6400
8.	65	4225

9.	65	4225
10.	80	6400
11.	80	6400
12.	85	7225
13.	80	6400
14.	70	4900
15.	80	6400
16.	80	6400
17.	80	6400
18.	80	6400
19.	75	5625
20.	75	5625
21.	55	3025
22.	65	4225
23.	80	6400
24.	85	7225
25.	85	7225
26.	85	7225
27.	85	7225
28.	90	8100
29.	80	6400
Total	2205	169925

N = 29
$\sum xi$ = 2205
$\sum_{xi} 2$ = 169925

So:

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

$$= \frac{29\,(169925) - (2205)^2}{29(29-1)}$$

$$= \frac{4927825 - 4862025}{29(28)}$$

$$= \frac{65800}{812}$$

= 81.03

The Formula was used to test the hypothesis was:

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

2. X MIA 5 and X IS 3 :

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

So:

$$F = \frac{81.03}{65.20}$$

$$= 1.24$$

After doing the calculation, researcher found that $F_{count} = 1.24$. It had been compared to F_{table} with α 5% and dk numerator and deminator were same (n_1 and $n_2 = 26$; dk = 26-1 = 25). From the distribution list F, researcher found that $F_{table} = 2.62$, so $F_{count} < F_{table}$ (1.24< 2.62). It could be concluded that there is no difference variant between the X MIA 5 class and X IS 3 class. It means that the variant is homogenous**.**

Appendix 21

RESULT OF NORMALITY TEST IN PRE TEST

RESULT OF THE NORMALITY TEST OF X MIA 5 IN PRE-TEST

1. The score of XI MIA-5 class in pre test from low score to high score:

30	35	35	35	40	40	45	50	50	55
55	55	60	60	60	60	65	65	65	65
65	65	70	70	80	80	85	85	85	

2. High = 85

   Low = 30

   Range = High – Low

   = 85 - 30

   = 55

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

   = 1 + 3,3 log (29)

   = 1 + 3,3 (1.462)

   = 1 + 4.82

   = 5.82

   = 6

4. Length of Classes $= \frac{range}{totalofclass}$ $= \frac{55}{6} = 9.17 = 9$

5. Mean

Interval Class	F	X	x'	fx'	x'^2	fx'^2
30 – 38	4	34	+3	12	9	36
39 – 47	3	43	+2	6	4	12
48 – 56	5	52	+1	5	1	5
57 – 65	10	**61**	0	0	0	0
66 – 74	2	70	-1	-2	1	4
75 – 83	2	79	-2	-4	4	8
84 – 92	3	88	-3	-9	9	27
i = 9	29	-	-	8	-	92

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

= 61 + 9 ($\frac{8}{29}$)

= 61 + 9 (0.276)

= 61 + 2.484

= 63.484

$SD_t = i\sqrt{\frac{\sum fx'^2}{n} - \left(\frac{\sum fx'}{n}\right)^2}$

$= 9\sqrt{\frac{92}{29} - \left(\frac{8}{29}\right)^2}$

$= 9\sqrt{3.172 - (0.276)^2}$

$= 9\sqrt{3.172 - 0.076}$

$= 9\sqrt{3.096}$

= 9 x 1.76= 15.84

Table of Normality Data Test with Chi Kuadrad Formula

Interval of Score	Real Upper Limit	Z – Score	Limit of Large of the Area	Large of area	f_h	f_0	$\frac{(f_0-f_h)}{f_h}$
84 – 92	92.5	1.83	0.4656	0.07	2.03	4	0.97
75 – 83	83.5	1.26	0.3962	0.14	4.06	3	-0.26
66 – 74	74.5	0.70	0.2549	0.20	5.8	5	-0.14
57 – 65	65.5	0.13	0.0517	-0.29	-8.41	10	-2.19
48 – 56	56.5	-0.44	0.3300	0.17	4.93	2	-0.59
39 – 48	47.5	-1.01	0.1562	0.10	2.9	2	-3.10
30 – 38	38.5	-1.58	0.0571	0.42	12.18	3	-0.73
	29.5	-2.18	0.0146				
						X^2	-6.04

Based on the table above, the reseracher found that x^2_{count} = -6.04 while x^2_{table} = 11.070, cause $x^2_{count} < x^2_{table}$ (-6.04< 11.070) with degree of freedom (dk) = 6–1 = 5 and significant level α = 5%. So distribution of X MIA-5 class (pre-test) is normal.

6. Median

No	Interval	F	Fk
1	30 – 38	4	4
2	39 – 47	3	7
3	48 – 56	5	12
4	**57 – 65**	10	22
5	66 – 74	2	24
6	75 – 83	2	26
7	84 – 92	3	29

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

Bb = 56.5

F = 2

fm = 10

i = 9

n = 29

1/2n= 14.5

So :

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

$= 56.5 + 9\left(\frac{14.5-2}{10}\right)$

$= 56.5 + 9\ (1.25)$

$= 56.5 + 11.25$

$= 67.75$

7. Modus

No	Interval	F	Fk
1	30 – 38	4	4
2	39 – 47	3	7
3	48 – 56	5	12
4	**57 – 65**	10	22
5	66 – 74	2	24
6	75 – 83	2	26
7	84 – 92	3	29

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

L = 56.5

d_1 = 5

d_2 = 2

i = 9

So,

$M_o = 56.5 + \frac{5}{5+2} 9$

= 56.5 + 0.71 (9)

= 56.5 + 6.39

= 62.89

RESULT OF NORMALITY TEST IN PRE TEST

RESULT OF THE NORMALITY TEST OF X IS 3 IN PRE-TEST

1. The score of X IS 3 class in pre test from low score to high score:

30	40	40	45	45	50	50	50	50	55
55	55	55	55	60	60	60	65	65	65
70	70	70	75	75	80	80	80	85	

2. High = 85

   Low = 30

   Range = High – Low

   = 85 - 30

   = 55

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

   = 1 + 3,3 log (29)

   = 1 + 3,3 (1.462)

   = 1 + 4.82

   = 5.82

   = 6

4. Length of Classes $= \frac{range}{totalofclass} = \frac{55}{6} = 9.17 = 9$

5. Mean

Interval Class	F	X	x'	fx'	x'^2	fx'^2
30 – 38	1	34	+3	3	9	9
39 – 47	4	43	+2	8	4	16
48 – 56	9	52	+1	9	1	9
57 – 65	**6**	**61**	**0**	**0**	**0**	**0**
66 – 74	3	70	-1	-3	1	3
75 – 83	4	79	-2	-8	4	16
84 – 92	1	88	-3	-3	9	9
i = 9	29	-	-	8	-	64

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

$= 61 + 9\ (\frac{8}{29})$

$= 61 + 9\ (0.276)$

$= 61 + 2.5$

$= 63.5$

$$SD_t = i\sqrt{\frac{\Sigma fx'^2}{n} - \left(\frac{\Sigma fx'}{n}\right)^2}$$

$= 9\sqrt{\frac{64}{29} - \left(\frac{8}{29}\right)^2}$

$= 9\sqrt{2.21 - (0.2)^2}$

$= 9\sqrt{2.21 - 0.07}$

$= 9\sqrt{2.14}$

$= 9 \times 1.46$

$= 13.14$

Table of Normality Data Test with Chi Kuadrad Formula

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

84 – 92	92.5	2.20	0.4861				
				0.50	14.5	1	-0.93
75 – 83	83.5	1.52	0.4357				
				0.37	10.75	4	-0.63
66 – 74	74.5	0.84	0.2995				
				0.24	6.96	9	0.29
57 – 65	65.5	0.15	0.0596				
				-0.24	-6.96	6	-1.86
48 – 56	56.5	-0.53	0.2981				
				0.18	5.22	3	-0.42
39 – 48	47.5	-1.22	0.1112				
				0.08	2.32	4	0.72
30 – 38	38.5	-1.90	0.0287				
				0.02	0.58	1	0.72
	29.5	-2.59	0.0048				
						X^2	-2.11

Based on the table above, the reseracher found that x^2_{count} = -2.11 while x^2_{table} = 11.070, cause $x^2_{count} < x^2_{table}$ (-2.11< 11.070) with degree of freedom (dk) = 6–1 = 5 and significant level α = 5%. So distribution of X IS-3 class (pre-test) is normal.

6. Median

No	Interval	F	Fk
1	30 – 38	1	1
2	39 – 47	4	5
3	48 – 56	9	14
4	57 – 65	**6**	**20**
5	66 – 74	3	23
6	75 – 83	4	27
7	84 – 92	1	30

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

Bb = 56.5

F = 9

fm = 6

i = 9

n = 29

1/2n= 14.5

So :

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

$$= 56.5 + 9\left(\frac{14.5-9}{6}\right)$$

$$= 56.5 + 9\ (0.92)$$

$$= 56.5 + 8.28$$

$$= 64.78$$

7. Modus

No	Interval	F	Fk
1	30 – 38	1	1
2	39 – 47	4	5
3	48 – 56	**9**	**14**
4	57 – 65	6	20
5	66 – 74	3	23
6	75 – 83	4	27
7	84 – 92	1	30

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

L = 47.5

d_1 = 4

d_2 = 6

i = 9

So,

$M_o = 47.5 + \frac{4}{4+6}\ 9$

$= 47.5 + 0.4\ (9)$

$= 47.5 + 3.6$

$= 51.1$

Appendix 22

RESULT OF NORMALITY TEST IN POST TEST

RESULT OF THE NORMALITY TEST OF X MIA 5 IN POST-TEST

1. The score of X MIA 5 class in pre test from low score to high score:

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

2. High = 90
   Low = 65
   Range = High – Low
   = 90 - 60
   = 30
3. Total of Classes = 1 + 3,3 log (n)
   = 1 + 3,3 log (26)
   = 1 + 3,3 (1.419)
   = 1 + 4.68
   = 5.68
   = 6
4. Length of Classes $=\frac{range}{totalofclass}$ $=\frac{30}{6} = 5$
5. Mean

Interval Class	F	X	x'	fx'	x'^2	fx'^2
60 – 64	1	62	+4	4	16	64
65 – 69	3	67	+3	9	9	81
70 – 74	3	72	+2	6	4	24
75 – 79	5	77	+1	5	1	5
80 – 84	**8**	**82**	0	0	0	0
85 – 89	6	87	-1	-6	1	-6
90 – 94	3	92	-2	-6	4	-24
i = 5	29			12		144

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

= 82 + 5 ($\frac{12}{29}$)
= 82 + 5 (1.33)
= 82+ (6.65)
= 88.65

$$SD_t = i\sqrt{\frac{\sum fx'^2}{n} - \left(\frac{\sum fx'}{n}\right)^2}$$

$$= 5\sqrt{\frac{144}{29} - \left(\frac{12}{29}\right)^2}$$
$$= 5\sqrt{4.96 - (0.41)^2}$$
$$= 5\sqrt{4.96 - 0{,}17}$$
$$= 5\sqrt{4.79}$$
$$= 5 \text{ x } 2.18 = 10.9$$

Table of Normality Data Test with Chi Kuadrad Formula

Interval of Score	Real Upper Limit	Z – Score	Limit of Large of the Area	Large of area	f_h	f_0	$\frac{(f_0-f_h)}{f_h}$
	94.5	0.53	0.2019				
90 – 94				0.17	4.93	3	-0.39
	89.5	0.07	0.0279				
85 – 89				-0.32	-9.28	6	-1.64
	84.5	-0.38	0.3519				
80 – 84				0.14	4.06	8	0.97
	79.5	-0.83	0.2032				
75 – 79				0.10	2.9	5	0.72
	74.5	-1.29	0.0985				
70 – 74				0.05	1.45	3	1.06
	69.5	-1.75	0.0400				
65 – 69				0.02	0.58	3	4.17
	64.5	-2.21	0.0135				
60 – 64				-0.26	-7.54	1	1.13
	59.5	-0.59	0.2776				
						X^2	6.02

Based on the table above, the reseracher found that x^2_{count} = 6.02 while x^2_{table} = 11.070, cause $x^2_{count} < x^2_{table}$ (6.02< 11.070) with degree of freedom (dk) = 6–1 = 5 and significant level α = 5%. So distribution of X MIA 5 class (post-test) is normal.

6. Median

No	Interval	F	Fk
1	60 – 64	1	1
2	65 – 69	3	4
3	70 – 74	3	7
4	75 – 79	5	12
5	80 – 84	**8**	20
6	85 – 89	6	26
7	90 – 94	3	29

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

Bb = 79.5

F = 5

fm = 8

i = 5

n = 29

1/2n= 14.5

So :

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

$= 79.5 + 5\left(\frac{14.5-5}{8}\right)$

$= 79.5 + 5\ (1.18)$

$= 79.5 + 5.9$

$= 85.4$

7. Modus

No	Interval	F	Fk
1	60 – 64	1	1
2	65 – 69	3	4
3	70 – 74	3	7
4	75 – 79	5	12
5	80 – 84	**8**	20
6	85 – 89	6	26
7	90 – 94	3	29

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

L = 79.5

d_1 = 5

d_2 = 6

i = 5

So,

$M_o = 79.5 + \frac{5}{5+6}\ 5$

$= 79.5 + 0.45\ (5)$

$= 79.5 + 2.25$

$= 81.75$

RESULT OF NORMALITY TEST IN POST TEST

RESULT OF THE NORMALITY TEST OF X IS 3 IN POST-TEST

1. The score of X IS 3 class in post test from low score to high score:

55	60	60	65	65	65	65	70	75	75
75	80	80	80	80	80	80	80	80	80
80	80	80	85	85	85	85	85	90	

2. High = 90
   Low = 55
   Range = High – Low
   = 90- 55
   = 35
3. Total of Classes = 1 + 3,3 log (n)
   = 1 + 3,3 log (26)
   = 1 + 3,3 (1.419)
   = 1 + 4.68
   = 5.68
   = 6
4. Length of Classes $= \frac{range}{totalofclass} = \frac{35}{6} = 5.8 = 6$
5. Mean

Interval Class	F	X	x'	fx'	x'^2	fx'^2
55 – 60	3	57.5	+4	12	16	48
61 – 66	4	63.5	+3	12	9	36
67 – 72	1	69.5	+2	1	4	2
73 – 78	3	75.5	+1	3	1	3
79 – 84	**12**	**81.5**	0	0	0	0
85 – 90	6	87.5	-1	-6	1	-6
$i = 6$	29			22		83

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

$= 81.5 + 6\ (\frac{22}{83})$

$= 81.5 + 6\ (0.27)$

= 81.5+ (1.59)
= 83.09

$SD_t = i\sqrt{\frac{\sum fx'^2}{n} - \left(\frac{\sum fx'}{n}\right)^2}$

$= 6\sqrt{\frac{83}{29} - \left(\frac{22}{29}\right)^2}$
$= 6\sqrt{2.86 - (0.75)^2}$
$= 6\sqrt{2.86 - 0{,}56}$
$= 6\sqrt{2.3}$
= 6 x 1.51= 9.06

Table of Normality Data Test with Chi Kuadrad Formula

Interval of Score	Real Upper Limit	Z – Score	Limit of Large of the Area	Large of area	f_h	f_0	$\frac{(f_0-f_h)}{f_h}$
	90.5	0.81	0.2910				
85 – 90				0.23	6.67	6	-0.10
	84.5	0.15	0.0596				
79 – 84				-0.24	-6.96	12	-2.72
	78.5	-0.50	0.3085				
73 – 78				0.18	5.22	3	-0.42
	72.5	-1.16	0.1230				
67 – 72				-0.21	-6.09	1	-1.16
	66.5	-1.83	0.0336				
61 – 66				0.02	0.58	4	5.89
	60.5	-2.49	0.0063				
55 – 60				0.01	0.29	3	9.34
	54.5	-3.15	0.0008				
						X^2	10.8

Based on the table above, the reseracher found that x^2_{count} = 10.8 while x^2_{table} = 11.070, cause $x^2_{count} < x^2_{table}$ (10.8< 11.070) with degree of freedom (dk) = 6–1 = 5 and significant level α = 5%. So distribution of X IS 3 class (post-test) is normal.

6. Median

No	Interval	F	Fk

1	55 – 60	3	3
2	61 – 66	4	7
3	67 – 72	1	8
4	73 – 78	3	11
5	79 – 84	**12**	23
6	85 – 90	6	29

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

Bb = 78.5

F = 3

fm = 12

i = 6

n = 29

1/2n= 14.5

So :

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

$= 78.5 + 6\left(\frac{14.5-6}{12}\right)$

$= 78.5 + 6\ (0.7)$

$= 78.5 + 4.2$

$= 82.7$

7. Modus

No	Interval	F	Fk
1	55 – 60	3	3
2	61 – 66	4	7
3	67 – 72	1	8
4	73 – 78	3	11
5	79 – 84	**12**	23
6	85 – 90	6	29

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

L = 78.5

d_1 = 3

d_2 = 6

i = 6

So,

$M_o = 78.5 + \frac{3}{3+6}\ 6$

$= 78.5 + 0.33\ (6)$

= 78.5 + 1.98
= 80.48

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:

$$Tt = \frac{X_1 - X_2}{\sqrt{\left(\frac{(n_1-1)s_1^2+(n_2-1)s_2^2}{n_1+n_2-2}\right)\left(\frac{1}{n_1}+\frac{1}{n_2}\right)}}$$

$$Tt = \frac{63.5 - 63.48}{\sqrt{\left(\frac{(29-1)13.14+(29-1)15.84}{29+29-2}\right)\left(\frac{1}{29}+\frac{1}{29}\right)}}$$

$$Tt = \frac{0.02}{\sqrt{\left(\frac{28(13.14)+28(15.84)}{56}\right)\left(\frac{2}{29}\right)}}$$

$$Tt = \frac{0.02}{\sqrt{\left(\frac{367.92+443.52}{56}\right)(0.07)}}$$

$$Tt = \frac{0.02}{\sqrt{(811.44)(0.07)}}$$

$$Tt = \frac{0.02}{\sqrt{56.8}}$$

$$Tt = \frac{0.02}{7.54}$$

$$Tt = 0.003$$

Based on researcher calculation result of homogeneity test of the both averages, researcher found that t_{count}= 0.003 with opportunity (1-α) = 1 – 5% = 95% and dk = $n_1 + n_2 – 2$ = 29 + 29 – 2 = 56, t_{table} = 1.67252. So, $t_{count} < t_{table}$(0.003 <1.67252) and H_0 is accepted, it means no difference the average between the first class as experimental class 1 and the second class as experimental class 2 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:

$$Tt = \frac{X_1 - X_2}{\sqrt{\left(\frac{(n_1-1)s_1^2+(n_2-1)s_2^2}{n_1+n_2-2}\right)\left(\frac{1}{n_1}+\frac{1}{n_2}\right)}}$$

$$Tt = \frac{88.65 - 83.09}{\sqrt{\left(\frac{(29-1)10.9+(29-1)9.06}{29+29-2}\right)\left(\frac{1}{29}+\frac{1}{29}\right)}}$$

$$Tt = \frac{5.56}{\sqrt{\left(\frac{28(10.9)+28(9.06)}{56}\right)\left(\frac{2}{29}\right)}}$$

$$Tt = \frac{5.56}{\sqrt{\left(\frac{305.2+253.68}{56}\right)\left(\frac{2}{29}\right)}}$$

$$Tt = \frac{5.56}{\sqrt{\left(\frac{558,88}{56}\right)(0.07)}}$$

$$Tt = \frac{5.56}{\sqrt{(9.98)(0.07)}}$$

$$Tt = \frac{5.56}{\sqrt{0.58}}$$

$$Tt = \frac{5.56}{0.76}$$

$$Tt = 7.31$$

Based on researcher calculation result of homogeneity test of the both averages, researcher found that t_{count}= 7.31 with opportunity (1-α) = 1 – 5% = 95% anddk = $n_1 + n_2 – 2$ = 29 + 29 – 2 = 56, t_{table} = 1.67252. So, $t_{count} > t_{table}$(7.31 >1.67252) and H_a is accepted, it means there was the difference average between the experimental class 1 and the experimental class 2 in this research.

Appendix 23

Chi-Square Table

dk	Significant level					
	50%	30%	20%	10%	5%	1%
1	0,455	1,074	1,642	2,706	3,841	6,635
2	1,386	2,408	3,219	4,605	5,991	9,210
3	2,366	3,665	4,642	6,251	7,815	11,341
4	3,357	4,878	5,989	7,779	9,488	13,277
5	4,351	6,064	7,289	9,236	11,070	15,086
6	5,348	7,231	8,558	10,645	12,592	16,812
7	6,346	8,383	9,803	12,017	14,067	18,475
8	7,344	9,524	11,030	13,362	15,507	20,090
9	8,343	10,656	12,242	14,684	16,919	21,666
10	9,342	11,781	13,442	15,987	18,307	23,209
11	10,341	12,899	14,631	17,275	19,675	24,725
12	11,340	14,011	15,812	18,549	21,026	26,217
13	12,340	15,119	16,985	19,812	22,362	27,688
14	13,339	16,222	18,151	21,064	23,685	29,141
15	14,339	17,222	19,311	22,307	24,996	30,578
16	15,338	18,418	20,465	23,542	26,296	32,000
17	16,338	19,511	21,615	24,769	27,587	33,409
18	17,338	20,601	22,760	25,989	28,869	34,805
19	18,338	21,689	23,900	27,204	30,144	36,191
20	19,337	22,775	25,038	28,412	31,410	37,566
21	20,337	23,858	26,171	29,615	32,671	38,932
22	21,337	24,939	27,301	30,813	33,924	40,289
23	22,337	26.018	28,429	32,007	35,172	41,638
24	23,337	27,096	29,553	33,196	35,415	42,980
25	24,337	28,172	30,675	34,382	37,652	44,314
26	25,336	29,246	31,795	35,563	38,885	45,642
27	26,336	30,319	32,912	36,741	40,113	46,963
28	27,336	31,391	34,027	37,916	41,337	48,278
29	28,336	32,461	35,139	39,087	42,557	49,588
30	29,336	33,530	36,250	40,256	43,773	50,892

Appendix 24

Z-Table

Z	0.00	0.01	0.02	0.03	0.04	0.05	0.06	0.07	0.08	0.09
-3.9	0.00005	0.00005	0.00004	0.00004	0.00004	0.00004	0.00004	0.00004	0.00003	0.00003
-3.8	0.00007	0.00007	0.00007	0.00006	0.00006	0.00006	0.00006	0.00005	0.00005	0.00005
-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
-1.6	0.05480	0.05370	0.05262	0.05155	0.05050	0.04947	0.04846	0.04746	0.04648	0.04551
-1.5	0.06681	0.06552	0.06426	0.06301	0.06178	0.06057	0.05938	0.05821	0.05705	0.05592
-1.4	0.08076	0.07927	0.07780	0.07636	0.07493	0.07353	0.07215	0.07078	0.06944	0.06811
-1.3	0.09680	0.09510	0.09342	0.09176	0.09012	0.08851	0.08691	0.08534	0.08379	0.08226
-1.2	0.11507	0.11314	0.11123	0.10935	0.10749	0.10565	0.10383	0.10204	0.10027	0.09853
-1.1	0.13567	0.13350	0.13136	0.12924	0.12714	0.12507	0.12302	0.12100	0.11900	0.11702
-1.0	0.15866	0.15625	0.15386	0.15151	0.14917	0.14686	0.14457	0.14231	0.14007	0.13786
-0.9	0.18406	0.18141	0.17879	0.17619	0.17361	0.17106	0.16853	0.16602	0.16354	0.16109
-0.8	0.21186	0.20897	0.20611	0.20327	0.20045	0.19766	0.19489	0.19215	0.18943	0.18673
-0.7	0.24196	0.23885	0.23576	0.23270	0.22965	0.22663	0.22363	0.22065	0.21770	0.21476
-0.6	0.27425	0.27093	0.26763	0.26435	0.26109	0.25785	0.25463	0.25143	0.24825	0.24510

-0.5	0.30854	0.30503	0.30153	0.29806	0.29460	0.29116	0.28774	0.28434	0.28096	0.27760
-0.4	0.34458	0.34090	0.33724	0.33360	0.32997	0.32636	0.32276	0.31918	0.31561	0.31207
-0.3	0.38209	0.37828	0.37448	0.37070	0.36693	0.36317	0.35942	0.35569	0.35197	0.34827
-0.2	0.42074	0.41683	0.41294	0.40905	0.40517	0.40129	0.39743	0.39358	0.38974	0.38591
-0.1	0.46017	0.45620	0.45224	0.44828	0.44433	0.44038	0.43644	0.43251	0.42858	0.42465
-0.0	0.50000	0.49601	0.49202	0.48803	0.48405	0.48006	0.47608	0.47210	0.46812	0.46414

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

2.4	0.4918	0.4920	0.4922	0.4925	0.4927	0.4929	0.4931	0.4932	0.4934	0.4936
2.5	0.4938	0.4940	0.4941	0.4943	0.4945	0.4946	0.4948	0.4949	0.4951	0.4952
2.6	0.4953	0.4955	0.4956	0.4957	0.4959	0.4960	0.4961	0.4962	0.4963	0.4964
2.7	0.4965	0.4966	0.4967	0.4968	0.4969	0.4970	0.4971	0.4972	0.4973	0.4974
2.8	0.4974	0.4975	0.4976	0.4977	0.4977	0.4978	0.4979	0.4979	0.4980	0.4981
2.9	0.4981	0.4982	0.4982	0.4983	0.4984	0.4984	0.4985	0.4985	0.4986	0.4986
3.0	0.4987	0.4987	0.4987	0.4988	0.4988	0.4989	0.4989	0.4989	0.4990	0.4990
3,1	0,4990	0,4991	0,4991	0.4991	0,4992	0,4992	0,4992	0,4992	0,4993	0,4993
3,2	0,4993	0,4993	0,4994	0,4994	0,4994	0,4994	0,4994	0,4995	0,4995	0,4995
3,3	0,4995	0,4995	0,4995	0,4996	0,4996	0,4996	0,4996	0,4996	0,4997	0,4997
3,4	0,4997	0,4997	0,4997	0,4997	0,4997	0,4997	0,4997	0,4997	0,4997	0,4998
3,5	0,4998	0,4998	0,4998	0,4998	0,4998	0,4998	0,4998	0,4998	0,4998	0,4998
3,6	0,4998	0,4998	0,4999	0,4999	0,4999	0,4999	0,4999	0,4999	0,4999	0,4999
3,7	0,4999	0,4999	0,4999	0,4999	0,4999	0,4999	0,4999	0,4999	0,4999	0,4999
3,8	0,4999	0,4999	0,4999	0,4999	0,4999	0,4999	0,4999	0,4999	0,4999	0,4999
3,9	0,5000	0,5000	0,5000	0,5000	0,5000	0,5000	0,5000	0,5000	0,5000	0,5000

Appendix 25

Percentage Points of the t Distribution

Pr	0.25	0.10	0.05	0.025	0.01	0.005	0.001
df	0.50	0.20	0.10	0.050	0.02	0.010	0.002
1	1.00000	3.07768	6.31375	12.70620	31.82052	63.65674	318.30884
2	0.81650	1.88562	2.91999	4.30265	6.96456	9.92484	22.32712
3	0.76489	1.63774	2.35336	3.18245	4.54070	5.84091	10.21453
4	0.74070	1.53321	2.13185	2.77645	3.74695	4.60409	7.17318
5	0.72669	1.47588	2.01505	2.57058	3.36493	4.03214	5.89343
6	0.71756	1.43976	1.94318	2.44691	3.14267	3.70743	5.20763
7	0.71114	1.41492	1.89458	2.36462	2.99795	3.49948	4.78529
8	0.70639	1.39682	1.85955	2.30600	2.89646	3.35539	4.50079
9	0.70272	1.38303	1.83311	2.26216	2.82144	3.24984	4.29681
10	0.69981	1.37218	1.81246	2.22814	2.76377	3.16927	4.14370
11	0.69745	1.36343	1.79588	2.20099	2.71808	3.10581	4.02470
12	0.69548	1.35622	1.78229	2.17881	2.68100	3.05454	3.92963
13	0.69383	1.35017	1.77093	2.16037	2.65031	3.01228	3.85198
14	0.69242	1.34503	1.76131	2.14479	2.62449	2.97684	3.78739
15	0.69120	1.34061	1.75305	2.13145	2.60248	2.94671	3.73283
16	0.69013	1.33676	1.74588	2.11991	2.58349	2.92078	3.68615
17	0.68920	1.33338	1.73961	2.10982	2.56693	2.89823	3.64577
18	0.68836	1.33039	1.73406	2.10092	2.55238	2.87844	3.61048
19	0.68762	1.32773	1.72913	2.09302	2.53948	2.86093	3.57940
20	0.68695	1.32534	1.72472	2.08596	2.52798	2.84534	3.55181
21	0.68635	1.32319	1.72074	2.07961	2.51765	2.83136	3.52715
22	0.68581	1.32124	1.71714	2.07387	2.50832	2.81876	3.50499
23	0.68531	1.31946	1.71387	2.06866	2.49987	2.80734	3.48496
24	0.68485	1.31784	1.71088	2.06390	2.49216	2.79694	3.46678
25	0.68443	1.31635	1.70814	2.05954	2.48511	2.78744	3.45019
26	0.68404	1.31497	1.70562	2.05553	2.47863	2.77871	3.43500
27	0.68368	1.31370	1.70329	2.05183	2.47266	2.77068	3.42103
28	0.68335	1.31253	1.70113	2.04841	2.46714	2.76326	3.40816
29	0.68304	1.31143	1.69913	2.04523	2.46202	2.75639	3.39624
30	0.68276	1.31042	1.69726	2.04227	2.45726	2.75000	3.38518
31	0.68249	1.30946	1.69552	2.03951	2.45282	2.74404	3.37490
32	0.68223	1.30857	1.69389	2.03693	2.44868	2.73848	3.36531
33	0.68200	1.30774	1.69236	2.03452	2.44479	2.73328	3.35634
34	0.68177	1.30695	1.69092	2.03224	2.44115	2.72839	3.34793
35	0.68156	1.30621	1.68957	2.03011	2.43772	2.72381	3.34005
36	0.68137	1.30551	1.68830	2.02809	2.43449	2.71948	3.33262
37	0.68118	1.30485	1.68709	2.02619	2.43145	2.71541	3.32563
38	0.68100	1.30423	1.68595	2.02439	2.42857	2.71156	3.31903
39	0.68083	1.30364	1.68488	2.02269	2.42584	2.70791	3.31279

40	0.68067	1.30308	1.68385	2.02108	2.42326	2.70446	3.30688

Percentage Points of the t Distribution

Pr	**0.25**	**0.10**	**0.05**	**0.025**	**0.01**	**0.005**	**0.001**
df	**0.50**	**0.20**	**0.10**	**0.050**	**0.02**	**0.010**	**0.002**
41	0.68052	1.30254	1.68288	2.01954	2.42080	2.70118	3.30127
42	0.68038	1.30204	1.68195	2.01808	2.41847	2.69807	3.29595
43	0.68024	1.30155	1.68107	2.01669	2.41625	2.69510	3.29089
44	0.68011	1.30109	1.68023	2.01537	2.41413	2.69228	3.28607
45	0.67998	1.30065	1.67943	2.01410	2.41212	2.68959	3.28148
46	0.67986	1.30023	1.67866	2.01290	2.41019	2.68701	3.27710
47	0.67975	1.29982	1.67793	2.01174	2.40835	2.68456	3.27291
48	0.67964	1.29944	1.67722	2.01063	2.40658	2.68220	3.26891
49	0.67953	1.29907	1.67655	2.00958	2.40489	2.67995	3.26508
50	0.67943	1.29871	1.67591	2.00856	2.40327	2.67779	3.26141
51	0.67933	1.29837	1.67528	2.00758	2.40172	2.67572	3.25789
52	0.67924	1.29805	1.67469	2.00665	2.40022	2.67373	3.25451
53	0.67915	1.29773	1.67412	2.00575	2.39879	2.67182	3.25127
54	0.67906	1.29743	1.67356	2.00488	2.39741	2.66998	3.24815
55	0.67898	1.29713	1.67303	2.00404	2.39608	2.66822	3.24515
56	0.67890	1.29685	1.67252	2.00324	2.39480	2.66651	3.24226
57	0.67882	1.29658	1.67203	2.00247	2.39357	2.66487	3.23948
58	0.67874	1.29632	1.67155	2.00172	2.39238	2.66329	3.23680
59	0.67867	1.29607	1.67109	2.00100	2.39123	2.66176	3.23421
60	0.67860	1.29582	1.67065	2.00030	2.39012	2.66028	3.23171
61	0.67853	1.29558	1.67022	1.99962	2.38905	2.65886	3.22930
62	0.67847	1.29536	1.66980	1.99897	2.38801	2.65748	3.22696
63	0.67840	1.29513	1.66940	1.99834	2.38701	2.65615	3.22471
64	0.67834	1.29492	1.66901	1.99773	2.38604	2.65485	3.22253
65	0.67828	1.29471	1.66864	1.99714	2.38510	2.65360	3.22041
66	0.67823	1.29451	1.66827	1.99656	2.38419	2.65239	3.21837
67	0.67817	1.29432	1.66792	1.99601	2.38330	2.65122	3.21639
68	0.67811	1.29413	1.66757	1.99547	2.38245	2.65008	3.21446
69	0.67806	1.29394	1.66724	1.99495	2.38161	2.64898	3.21260
70	0.67801	1.29376	1.66691	1.99444	2.38081	2.64790	3.21079
71	0.67796	1.29359	1.66660	1.99394	2.38002	2.64686	3.20903
72	0.67791	1.29342	1.66629	1.99346	2.37926	2.64585	3.20733
73	0.67787	1.29326	1.66600	1.99300	2.37852	2.64487	3.20567
74	0.67782	1.29310	1.66571	1.99254	2.37780	2.64391	3.20406
75	0.67778	1.29294	1.66543	1.99210	2.37710	2.64298	3.20249
76	0.67773	1.29279	1.66515	1.99167	2.37642	2.64208	3.20096
77	0.67769	1.29264	1.66488	1.99125	2.37576	2.64120	3.19948
78	0.67765	1.29250	1.66462	1.99085	2.37511	2.64034	3.19804
79	0.67761	1.29236	1.66437	1.99045	2.37448	2.63950	3.19663

80	0.67757	1.29222	1.66412	1.99006	2.37387	2.63869	3.19526
∞							

APPENDIX 26

RESEARCH DOCUMENTATION


SMA NEGERI
3
PADANG


[COMUNITY OF CIENCE ONE]

KEMENTERIAN AGAMA REPUBLIK INDONESIA
INSTITUT AGAMA ISLAM NEGERI PADANGSIDIMPUAN
FAKULTAS TARBIYAH DAN ILMU KEGURUAN
Jalan T. Rizal Nurdin Km. 4,5 Sihitang 22733
Telepon (0634) 22080 Faximile (0634) 24022

Nomor : B - 1869 /In.14/E.1/TL.00/11/2019 14 November 2019
Hal : **Izin Penelitian**
Penyelesaian Skripsi

Yth. Kepala Cabang Dinas Pendidikan Sidimpuan,
Dinas Pendidikan Provinsi

Dengan hormat, bersama ini kami sampaikan bahwa :

Nama	: Ulan Dahari
NIM	: 1520300068
Program Studi	: Tadris/Pendidikan Bahasa Inggris
Fakultas	: Tarbiyah dan Ilmu Keguruan
Alamat	: Padangsidimpuan

adalah Mahasiswa Fakultas Tarbiyah dan Ilmu Keguruan IAIN Padangsidimpuan yang sedang menyelesaikan Skripsi dengan Judul **"The Effect of Plan (Predict, Locate, ADD and Note) to Students' Reading Comprehension at the Grade X SMA N.3 Padangsidimpuan".**

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

Demikian disampaikan, atas kerja sama yang baik diucapkan terimakasih.

a.n. Dekan
Wakil Dekan Bidang Akademik

Dr. Ahmad Nizar Rangkuti, S.Si., M.Pd.
NIP. 19730603 200604 1 002

PEMERINTAH PROVINSI SUMATERA UTARA
DINAS PENDIDIKAN
SEKOLAH MENENGAH ATAS (SMA) NEGERI 3
Jalan Perintis Kemerdekaan No.56 Padangmatinggi. Kode Pos : 22727
Email : naisyah77@yahoo.com. Website : www.sman3padangsidimpuan.sch.id
KOTA PADANGSIDIMPUAN

SURAT KETERANGAN
Nomor :421.3/ 710/ SMA-3/ 2019

Yang bertanda tangan dibawah ini Kepala SMA Negeri 3 Padangsidimpuan, Kecamatan Padangsidimpuan Selatan, Kota Padangsidimpuan, Provinsi Sumatera Utara dengan ini menerangkan bahwa :

1. Nama : **Ulan Dahari**
2. NIM : 1520300068
3. Jurusan/ Program Studi : Tadris/ Pendidikan Bahasa Inggris

Benar telah melaksanakan Penilitian Penyelesaian Skripsi di SMA Negeri 3 Padangsidimpuan dengan judul "**The Effect of Plan (Predict, Locate, ADD and Note) to Students' Reading Comprehension at the Grade X SMA N 3 Padangsidimpuan**. Sesuai dengan surat Institut Agama Islam Negeri dengan Nomor : B -1869 In.14/E/TL.00/01/2019 Mengadakan Penelitian Penyelesian Skripsi yang dilaksanakan pada tanggal 14 November s.d 16 November 2019.

Demikian Surat Keterangan ini diperbuat dengan sebenarnya agar dapat dipergunakan seperlunya.

Padangsidimpuan, 16 November 2019
Kepala SMA Negeri 3
Padangsidimpuan,

Drs. H. ARDAN
Pembina Tk. I
NIP.19680715 199412 1 004